

1936

The economic status of hired labor on Massachusetts market-garden farms

Marguerite E. Bicknell
University of Massachusetts Amherst

Follow this and additional works at: <https://scholarworks.umass.edu/theses>

Bicknell, Marguerite E., "The economic status of hired labor on Massachusetts market-garden farms" (1936). *Masters Theses 1911 - February 2014*. 1330.
<https://doi.org/10.7275/6870857>

This thesis is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Masters Theses 1911 - February 2014 by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

UMASS/AMHERST

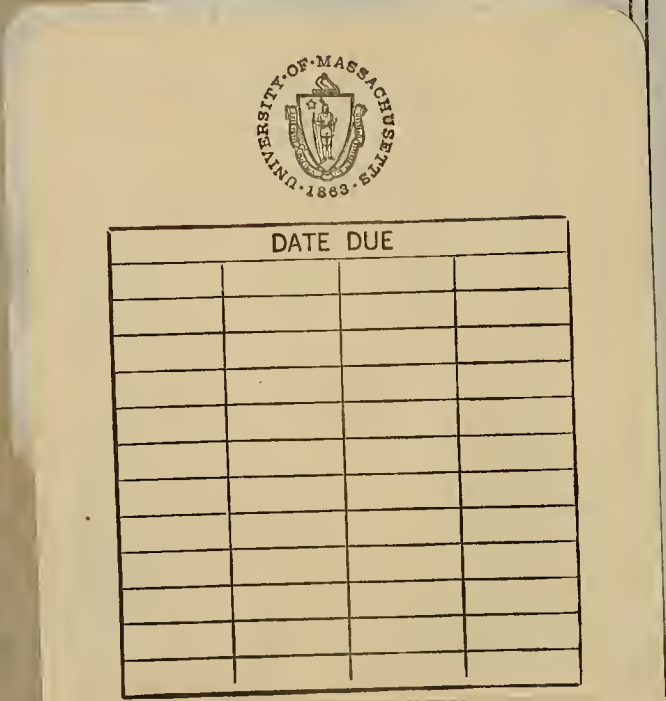


312066013577667

THE ECONOMIC STATUS OF HIRED LABOR
ON MASSACHUSETTS MARKET-GARDEN FARMS

BICKNELL-1936

MASSACHUSETTS
STATE COLLEGE

[illegible]

UNIV. OF MASSACHUSETTS/AMHERST
LIBRARY

LD
3234
M268
1936
B583

LD
3234
M268
1936
B583

THE ECONOMIC STATUS OF HIRED LABOR
ON MASSACHUSETTS MARKET-GARDEN FARMS

by
Marguerite E. Bicknell

Thesis submitted for the degree of
Master of Science
Massachusetts State College
Amherst, Massachusetts

May 1936

Labor consists of persons.

--- Tawney, The Acquisitive Society

Preface

The following study attempts to set forth a brief historical picture of the development and treatment of the agricultural labor problem in Massachusetts from Colonial times to the present in order to account for the existence of certain conditions found today in the market gardening industry of that state. It is based principally on work done by the Federal and State Agricultural and Labor Departments at Washington and Boston, supplemented by material bearing on the problem found in studies conducted by a few other agencies, and a personal survey of representative market garden farms.

Conclusions presented by the authors of the studies used have been included in some cases, but the author wishes to assume full responsibility for all interpretations and opinions expressed throughout the study.

It is hardly necessary to state that the present paper makes no claim as an exhaustive analysis of agricultural wage theories. For a study of this length, such an attempt at completeness would be impossible. Much remains to be done in this field. There is a dearth of data, for instance, on farm labor turnover, on tenure of farm employment, on true alternative employment and actual mobility of agricultural labor; moreover, a detailed comparison of wages, numbers employed, and length of tenure with acreage, cost of production and market value of produce over a period of years for a given group of market garden farms would be of inestimable value in examin-

ing the marginal productivity theory of wages but no such information is yet obtainable. Such a study would be extraordinarily illuminating.

The bibliography attempts to list only those sources which have been found of immediate value in the development of the present study. Many other excellent studies exist but it was thought irrelevant to include them here.

The writer wishes to acknowledge much guidance received from her department head, Dr. Alexander E. Cance. She wishes also to express her gratitude to F. H. Branch, C. W. Westcott, and Roy E. Moser, of the Department of Agricultural Economics and Farm Management Extension of this college, for material supplied by them and duly credited elsewhere, to the heads of the Department of Labor and Industries, the Department of Agriculture and the Department of Corporations and Taxation of Massachusetts for valuable help given, to F. J. Sievers, Director of the Graduate School for his encouragement throughout, and to the circle of interested friends whose sympathetic help has made this study possible.

M.E.B. May 5, 1936.

Contents

Preface

Part I Introduction

I. The Problem	Page 1
II. Method and Scope of Study	5

Part II The Status of Agricultural Labor in Massachusetts - Historical Review

III. Agricultural Labor Status in Massachusetts: Colonial Times to Middle of Nineteenth Century	9
IV. Agricultural Labor Status in Massachusetts: 1850 to Present Era	25

Part III Rise of Market Gardening Industry in Massachusetts and Status of Labor Therein

V. Development of Market Gardening in Massachu- setts and Predominance of Middlesex County	53
VI. Status of Labor in Market Gardening Industry Compared with that in Four Other Leading Agricultural Industries in Massachusetts	60
VII. Labor Status on Market Garden Farms, Middle- sex County, 1935	82

Part IV Theory of Farm Wages

VIII. Factors Affecting Wages	98
IX. Summary and Conclusions	105

Part I

Introduction

"The practical thing for a traveler who is uncertain of his path is not to proceed with the utmost rapidity in the wrong direction: it is to consider how to find the right one."

--- Tawney

I

The Problem

P. 1. Increasing attention paid to labor problems.

During the depression years, 1930-1935, attention has been progressively focussed on the problems of labor. The growing army of unemployed, the various attempts at unemployment prevention and relief, the varied and fleeting panaceas promulgated by loud-voiced demagogues and finally the social security legislation enacted by Congress have all contributed toward an increased interest in and demand for accurate information regarding all fields of labor. The questions of higher wages and greater purchasing power and of shorter hours and more jobs have both come in for their share of discussion.

P. 2. Industrial labor thoroughly studied.

Conditions of industrial labor have received concentrated attention and study. Occupational and industrial data have for many years been gathered by many agencies. Studies of wages and hours, of industrial hazards of accident and disease, of prevalence of technological, seasonal and disability unemployment, of age and sex discrimination and of many other phases of the industrial worker's relation to his job abound. Much protective legislation has been enacted regarding wages, hours, industrial hazards, minimum age, limitation of women's work, etc., in the field of industry.

P. 3. Little known about agricultural labor.

But surprisingly little is known of the economic status of the agricultural laborer. Agricultural workers are by definition expressly excluded from the scope of most labor laws. Wages for agricultural labor have not been included in minimum wage legislation. The lot of the agricultural laborer has been left to whatever condition the law of supply and demand and the innate human attributes of the farmer-employer may determine.

P. 4. Labor deserting agriculture.

It is a well-known fact that workers of all classes have tended to desert agriculture for industry. In an expanding agriculture, possibilities exist for the farm worker to climb the 'agricultural ladder.' Remove that hope for advancement, and what is left? Only a job in which working conditions are actually as sordid as those of many of the worst phases of industrial life? Working hours longer than those in almost any known modern occupation? Do we have in agriculture the 'Cinderella' of the industries, as suggested by Miss Howard in her inestimable book?¹

P. 5. Growing unrest of agricultural labor.

Throughout the depression period, reports of strikes

1. Howard, Louise E. Labour in Agriculture - An International Survey. Oxford University Press. London, Eng. 1935.

among agricultural laborers in California received sporadic space in the news. In September, 1933, cranberry workers in Massachusetts went on strike. During the summer of 1935 the press carried turbulent stories of the inability of New Jersey blueberry growers to secure adequate help during the picking season in spite of the thousands on relief rolls in neighboring New York City. In Minnesota, the governor cancelled all relief until the needs of the wheat harvest were met.²

P. 6. Importance of agricultural labor.

There is ample evidence that all is not well with the agricultural worker. But the agricultural worker is of basic importance in national and international economy. Lowly as his lot may be, without him the world does not eat! It is no solution to say, "Raise the poor worker above this level by teaching him a skill." The farmer needs the unskilled worker, the man whose sole asset is his strong back, and his rhythmic power of manual accomplishment.

P. 7. Farmer not to blame.

But neither does it suffice merely to admonish the farmer to treat his laborer "better." The farmer-owner-employer is between the blades of the scissors. Low agricul-

2. For list of references, see "Farmers' and Farm Laborers' Strikes and Riots in the United States 1933-1935" - A list of references - Compiled in Library of Bureau of Agricultural Economics, U.S. Department of Agriculture. Washington, D.C. July 1935.

tural prices and high fixed labor costs squeeze him unmercifully. The poverty and want of opportunity of the farm worker cannot be attributed to ill will on the part of his employers; many of these employers share in the prevailing rural burdens of loneliness, of want of culture and amusements, and of absence of material comforts. Economic depressions only serve to show up in a more glaring light a state of affairs of which the worst feature is its very permanence.

P. 8. Questions to be answered.

How far, then, can we hope to improve the lot of the farm worker without driving the farmer into bankruptcy? What is a fair basis for determining farm wage rates? Are there other factors as important as the wage level in causing the increasing unrest in the ranks of agricultural labor? Is the employer-employee relationship in agriculture different from that relationship in other industries? Is there any justification for the farm worker's exclusion from legislative protection? Should farm workers be encouraged to organize unions? These and many additional questions need to be answered before we can attempt to find any satisfactory solution to the great problem of the farm laborer.

II

Method and Scope of Study

P. 1. Complex nature of the problem.

Crop and harvest needs differ greatly according to the types of farming and the geographical regions involved. Cotton farming in the south entails problems utterly different from those incident to the growing of wheat on wide acreages in the middle west. Fruit growing in the far northwest and vegetable cultivation in the Imperial Valley each demand specific types of workers and present problems of their own, while the small-scale, intensive farming in New England, with its concentration of manufacturing and its neighboring urban populations presents a labor picture totally dissimilar.

P. 2. Need for localization of study.

In order to arrive at any concrete appraisal of the farm labor problem, it is of course necessary to examine all available data regarding general conditions and wages. But before general conclusions can be reached, the needs of a particular region and a specific type of farming must be analyzed. For the purpose of this study, a group of market garden farms in Middlesex County, Massachusetts, where market gardening is the prevailing type of agriculture, has been selected.

P. 3. Sources of Data

Labor literature is particularly barren with regard to the agricultural industry. The few splendid sources cited in the bibliography have been of inestimable value in guiding the investigator, and in pointing out certain important conditions to be met. Statistical data from the United States Department of Agriculture and the Bureau of the Census furnish the general background for the study, as do also studies conducted by various state experiment stations. Statistical data obtained from the Massachusetts Department of Labor and Industries have aided in orienting the problem, but is admittedly incomplete, as noted below. Data regarding vegetable acreages was obtained from a study conducted in 1934-35 by the Massachusetts Department of Agriculture preceding the establishment of the Boston Regional Produce Market. Information for Middlesex County farms for 1935 is from a study made by the Department of Farm Management Extension of the Massachusetts State College (then, Massachusetts Agricultural College) in 1926. Facts for 1935 in Middlesex County were secured by questionnaire and personal interview.

P. 4. Method of Study

The study is presented in three steps. To begin with, no ultimate answer to a practical problem can be reached until the structure and relationships of the existing factors have been carefully examined. Therefore, general statistical

information concerning farm labor for the United States from Colonial times is summarized and the facts pertaining to Massachusetts isolated. Any data which seem relevant in leading to an understanding of labor problems in market garden farms in Massachusetts have been sifted out in the light of their relationship to the general problem as it has developed in the country. "The primary task," say the Webbs, in the Preface to their well-known treatise on Industrial Democracy,³ "is to observe and dissect facts, comparing as many specimens as possible, and precisely recording all their resemblances and differences whether or not they seem significant."

The second step is an attempt to view this actual array of existing facts from a theoretical hill-top, a point of observation far enough from the scene so that 'the forest is not obscured by the trees' and yet close enough so that human relationships may be clearly visible. It must never be forgotten that, no matter how theoretically viewed, 'labor consists of persons.'⁴ The facts must be weighed, balanced one against another, and juggled about like the pieces of a jigsaw puzzle, in order that the truths which form the hidden picture may finally be seen clearly. Moreover, theoretical generalizations of the past are not merely presented, but are considered in the light of the changing conceptions of the dynamic present.

3. Webb, Sidney & Beatrice. Industrial Democracy: Ed. of 1920, with new Introduction. Longmans Green and Co., Ltd. New York.

4. Tawney, R. H. The Acquisitive Society. Harcourt, Brace & Co. 1920.

To quote again from the intrepid and indefatigable Hobbs,
 "As an instrument for the discovery of new truth, the wildest suggestion of a crank or a fanatic, or the most casual conclusion of the practical man may well prove more fertile than verified generalisations which have already yielded their full fruit."⁵

The third step in the study is a presentation of some conclusions based upon the two preceding sections. Of what value to society is a mere presentation of facts, or even of a theoretical discussion of forces, unless thereby we can help to build a sign at the cross-roads to direct mankind to a possible path through the dilemma which confronts it? If civilization is to be saved from chaos and a new Dark Age, we must needs do more than move by instinct. It behooves us to chart our course, for it is only by human intervention that society moves forward.

5. Cf. note 3.

Part II

The Status of Agricultural Labor in Massachusetts Historical Review

"The need for security is fundamental, and almost the gravest indictment of our civilization is that the mass of mankind are without it."

--- Tawney

III

Agricultural Labor Status in Massachusetts
Colonial Times to Middle of Nineteenth Century

P. 1. Hired labor infrequent in Colonial Massachusetts.

Agricultural labor during the first century of colonial settlement was probably not free labor to any appreciable extent, even in New England.⁶ However, there are some data on the wages of free laborers who engaged in farm work.

In Massachusetts, in the first few years of settlement, labor at a maximum wage fixed by law (see Table 1, below) was compulsory during planting and harvesting seasons. Arti-

Table 1
 Wage Rates of Outdoor Labor of Men on Farms
 in Massachusetts - 1672*

(Obtained from quotations of decrees of the General Court by which wage rates were regulated from time to time.)

Grade of Labor	: By the--	: Wage Rate
Farm laborers, cutting peas	Acre	0.50
Farm laborers, mowing English grass	Acre	.333
Farm laborers, mowing salt marsh	Acre	.333
Farm laborers, mowing fresh meadow	Acre	.25
Farm laborers, reaping wheat	Acre	.667
Farm laborers, reaping rye	Acre	.50
Farm laborers, reaping barley	Acre	.167
Farm laborers, reaping oats	Acre	.167
Farm laborers, cutting wood	Cord	.209

* History of Wages in the U.S., Bur. of Lab. Stat. B. 499, p.20

ficers and mechanics could be drafted by the constable for seasonal work in their neighbors' fields unless they had har-

6. Stewart, Estelle M. and Bowen, C. J. History of Wages in the United States from Colonial Times to 1928. United States Bureau of Labor Statistics. Bull. No. 429. 1929.

vesting of their own. The foundation of New England agriculture at that time was grass, and mowing was always paid at a higher rate than other farm work. An account book of the period shows 6s. (\$1) a day for mowing, while the same man earned only 4s. 6d. (75 cents) a day when employed in weeding. New England farming, unlike the southern plantations, was carried on chiefly by the family, with occasional help hired by the day, at a 2s. rate.

P. 2. Appearance of "hired hand" on the farm.

The institution of the "hired hand" who lived with the family and was paid by the month was introduced about 1775, and by the close of the century was in general use.

P. 3. Early Massachusetts wage rates.

At the end of the eighteenth century, the prevailing wage rate paid the farm hand was \$7 per month, and practically always included board and room, i.e., a home with the farm family. Early in the nineteenth century, in Massachusetts, it had risen to \$9, but after the War of 1812, the wage climbed to \$13 and in some cases even to \$15 a month. Hiring by the day became more common, and in 1816, in Massachusetts, this rate, when used, was \$1, as is shown in a manuscript account book now in Baker Library.⁷ An excellent idea of the wage rates prevailing in Massachusetts from 1752 to 1814 may be obtained from Table 2, while a summary of wages by decades, 1752-

7. Cf. note 6.

Table 2.

Wage rates of labor of men on farms in Massachusetts, 1752-1814 (Sixteenth annual report of the Massachusetts Bureau of Statistics of labor, p. 317. Each line stands for one or a few individual instances. Neither board nor lodging included, unless so stated.)

Year	Grade of labor	By the--	Wage rate
1752	.....	Day	40.333
1753	.....	Day	.37
1754	.....	Day	.333
1755	.....	Day	.356
1756	.....	Day	.333
1756	Plowing green sward	Day	2.00
1757	.....	Day	.317
1757	With oxen	Day	1.00
1758	.....	Day	.259
1759	.....	Day	.25
1759	With oxen	Day	1.00
1760	.....	Day	.25
1761	.....	Day	.319
1763	.....	Day	.333
1763	With oxen	Day	2.00
1764	High	Day	.399
1764	Low	Day	.333
1765	Plowing	Day	1.33
1767	.....	Day	.271
1770	.....	Day	.336
1771	.....	Day	.333
1771	Boys	Day	.167
1774	.....	Day	.356
1775	.....	Day	.344
1775	.....	Week	1.75
1776	High	Day	.50
1776	Medium	Day	.333
1776	Low	Day	.167
1781	High	Day	.444
1781	Low	Day	.40
1783	High	Day	.423
1783	Low	Day	.347
1784	.....	Day	.394
1785	High	Day	.468
1785	Low	Day	.351
1786	.....	Day	.333
1787	High	Day	.56
1787	Low	Day	.392
1788	High	Day	.444
1788	Medium	Day	.399
1788	Low	Day	.333
1789	.....	Day	.423

(cont. on p. 12)

Table 2 (cont.).

Year	Grade of labor	: By the--	: Wage rate
1791	.....	Day	10.438
1792	High	Day	.403
1792	Low	Day	.187
1793	.....	Day	.353
1794	High	Day	.667
1794	Low	Day	.416
1795	High	Day	.75
1795	Low	Day	.393
1796	.....	Day	.487
1797	.....	Day	.436
1798	High	Day	.833
1798	Low	Day	.41
1798	High	Day	.528
1799	Low	Day	.43
1800	.....	Day	.434
1801	.....	Day	.577
1802	.....	Day	.632
1803	.....	Day	.517
1804	High	Day	1.00
1804	Low	Day	.612
1805	High	Day	1.33
1805	Low	Day	.617
1806	High	Day	1.17
1806	Medium	Day	1.00
1806	Low	Day	.625
1808	High	Day	1.00
1808	Medium	Day	.844
1808	Low	Day	.75
1808	Boys	Day	.167
1809	High	Day	.58
1809	Low	Day	.50
1810	High	Day	1.17
1810	Medium	Day	1.00
1810	Low	Day	.639
1811	High	Day	.683
1811	Low	Day	.50
1811	Boys	Day	.35
1812	High	Day	1.25
1812	Medium	Day	1.00
1812	Medium low	Day	.667
1812	Low	Day	.50
1813	High	Day	1.25
1813	Low	Day	.667
1814	High	Day	.793
1814	Low	Day	.607
1814	With double team	Day	3.00

1850, is shown in Table 3. Differential wage rates, according to the work done, seem to have been customary in this state (see again Tables 1 - 3).

Table 3
Summary of Wage Rates, by Decades*
1752-1850

Decade	Grade of Labor	By the--	Wage Rate
1752-1760	.....	Day	\$0.311
1752-1760	With oxen	Day	1.33
1761-1770	.....	Day	.33
1761-1770	With oxen	Day	1.66
1771-1780	.....	Day	.315
1771-1780	With oxen	Day	1.50
1781-1790	.....	Day	.396
1791-1800	.....	Day	.475
1801-1810	.....	Day	.775
1811-1820	.....	Day	.782
1811-1820	.....	Month	13.50
1811-1820	With board	Day	.56
1811-1820	With board and lodging	Month	8.00
1811-1820	With two meals a day	Month	10.00
1811-1820	With oxen	Day	2.25
1821-1830	.....	Day	.803
1821-1830	.....	Month	16.50
1821-1830	With board	Day	.55
1821-1830	With board and lodging	Month	11.00
1821-1830	With two meals a day	Month	13.50
1821-1830	With oxen	Day	1.82
1831-1840	.....	Day	.875
1831-1840	.....	Month	16.50
1831-1840	With board	Day	.55
1831-1840	With board and lodging	Month	11.00
1831-1840	With two meals a day	Month	13.50
1841-1850	.....	Day	.95
1841-1850	.....	Month	17.50
1841-1850	With board and lodging	Month	11.00

* See source for Table 2, p. 11.

P. 4. An early record.

From an early report of the Department of Agriculture,⁸

8. Bureau of Statistics. United States Department of Agriculture. Bulletin No. 4. 1893.

to whom crop correspondents in Middlesex County, Massachusetts, reported with regard to wage rates, the following condensed statement is quoted:

"From 1847 to 1850, \$16 per month and board, for eight months; 1851, \$18 per month and board for eight months; 1852, \$20 per month and board for eight months; 1853, the same; 1854, \$22 per month and board, for eight months; 1855 to 1860, average \$22 per month and board, for eight months, the other four months, \$12." - Town of Framingham. "In 1840, \$12 per month with board, by the year; \$14 for eight months; \$1 per day for harvesting; 50 to 75 cents at other times." - Town of Groton. "In 1840, \$13 and \$14 per month, with board, for eight months; 1850 and 1860, \$14 and \$16 per month with board, for eight months; 1861, \$13 and \$14 per month, with board, for eight months; 1862, \$16 and \$25 per month, with board, for eight months; 1863, \$20 to \$30 per month, with board, for eight months; 1864, \$20 to \$30 per month, with board, for eight months; 1865 to 1867, \$22 to \$30 per month, with board, for eight months." - Town of Hudson. "For a series of years from 1840 we could hire good help for from \$10 to \$15 per month, with board. From 1855 to 1860 good farm laborers could be hired for \$12 to \$15 per month, with board." - City of Lowell and vicinity.

P. 5. Total earnings of the worker.

Previous tables give us no idea of the length of tenure of the worker during this early period, hence there is no means of judging the annual earnings of the individual laborer. The general well-being of the worker can not be truly judged mere-

ly by information as to his rate of remuneration, but can only be finally arrived at by a consideration of his actual income throughout the year. From account books belonging to the ancestors of David E. Hoxie, of Leeds, Hampshire County, Mass., a record of actual wages paid at different dates during the years 1840 to 1862 for various classes of farm labor and of length of employment of each worker has been obtained, and from this the total earnings per worker have been calculated. These figures are shown in Table 4 (see p. 16).

It will be seen that 20 of these men earned \$100 or more per year in addition to their board, while 18 earned less than \$100. The maximum earned per year by any man was \$135, while the earnings occurring most frequently were \$116. It must be remembered that many of these workers may have moved from one farm to another, and so increased their earnings above the amount cited, although it will be noted that many were employed for the major part of the year on a single farm. Presumably there was opportunity also to hire out by the day for other common laborer's jobs. On the whole, however, for these workers engaged for the major part of the year, the earnings shown in the table constitute approximately their true cash earnings for the year, and may be taken to represent their purchasing power.

P. 6. Length of work week during early period.

Data on the number of hours worked per week by farm laborers in Massachusetts for this early period are not available,

Table 4
Massachusetts Farm Record of Wages Paid
(From account books of ancestors of David E. Hoxie, of Leeds,
Hampshire County, Massachusetts.)

Year	Item	Time covered by Rate	Rate with Board	Total cash earnings, with board*
1840	5 months, June 1-Nov. 1	Month	\$13.50	\$67.50
	8 " Dec. 1-	"	14.50	116.00
	6 " June 8-	"	13.50	\$1.00
1841	Not specified	Year	125.00	125.00
	4 months, Dec.-Apr.	Month	11.00	44.00
1842	7 " Apr.-	"	12.00	84.00
	8 " Dec.-	"	14.50	116.00
	5 " Apr.-Sept.	"	13.00	65.00
1843	4 " Nov.-	"	8.00	40.00
	7 " Apr.-	"	14.50	101.50
1844	8 " Apr.-	"	12.50	100.00
	8 " Apr.-	"	14.50	116.00
1845	8 " Apr.-	"	14.00	112.00
	4 " Dec.-	"	10.00	40.00
1846	8 " Apr.-	"	14.50	116.00
	8 " Apr.-	"	12.50	100.00
1847	3 $\frac{1}{2}$ " Dec.-	"	11.00	38.50
	8 " Apr.-	"	12.50	100.00
	4 " Apr.-	"	10.00	40.00
1848	8 " Apr.-	"	14.50	116.00
	4 " Apr.-	"	11.00	44.00
	6 " Apr.-	"	15.00	90.00
	4 " Dec.-	"	11.00	44.00
1854	8 " Apr.-Dec.	"	14.50	116.00
1855	8 " Apr.-	"	14.50	116.00
	48 days Aug.1-Sept. 17	Day	.75	36.00
	9 months Apr.18-Dec. 30	Month	15.00	135.00
1856	3 " Jan.-	"	15.00	45.00
	9 " Apr.21-Dec. 24	"	15.00	135.00
1857	8 " Apr.-	"	15.00	120.00
	8 " Apr.-	"	15.50	124.00
1858	8 " Apr.-	"	15.00	120.00
	6 " Oct.-	"	14.50	87.00
1859	4 " Mar.-	"	12.00	48.00
	5 " Nov.-	"	16.00	80.00
1860	8 " Apr.-	"	10.00	80.00
1861	7 " Apr.-	"	15.00	105.00
1862	7 " Apr.-	"	15.00	105.00

* Not included in original record, but calculations made from figures given in original.

but probably differed little from the length of the working week in other sections of the country. According to earliest records, the farm laborer, as workers in other occupations, worked from "sunrise to sunset." Figures, for the period 1840 to 1860, for states in which such information is to be had^{appeal} in Table 5. It will be seen that the customary number of hours worked per week ranged from 60 to 66.

Table 5

Length of Working Week for Farm Laborers*
1841-1860

Year	State	Hours per Week
1841	Texas	66
1843	Florida	66
1844	Kentucky	60
1848	Wisconsin	60
1850	Illinois	60
	Kentucky	60
	Rhode Island	60
1853	Florida	60
	Wisconsin	60
1854	New York	66
1855	Illinois	60
	Louisiana	66
	New York	66
1856	New York	66
	Wisconsin	60
1857	New York	66
1858	Illinois	60
	New York	66
1859	New York	66
1860	Illinois	61
	New York	66

* History of Wages in the United States from Colonial Times to 1928. Bur. of Labor Statistics. U.S. Department of Labor. Bulletin No. 499. 1929. p. 235.

P. 7. Supply of farm labor.

Prior to the first United States Census no figures are available on supply of farm labor in Massachusetts, but it is

evident that labor for hire during the Colonial period was in great demand and extremely limited in supply, since we find that early wage legislation sets maximum wages, to prevent "extortionate charges." Plymouth Colony and Massachusetts Bay Colony in 1630 passed laws fixing a maximum rate of pay. In 1633 Governor Winthrop noted that the "excessive rates" charged by workmen "grew to a general complaint" which called for legislative action. Besides wage laws and conscription by the constable in the interest of the farmers,⁹ the system of communal herding on the village common was produced by the scarcity of labor.

P. 8. Alternative employment.

During the early period, and as late as 1800, there appears to be little difference between wage payments to skilled and unskilled labor. The men who worked upon the construction of the meeting house in Dedham, Mass., in 1637, were to be assigned tasks to which they were "severally apted," and the same wages were to be paid "in all cases."¹⁰ This condition held true until the beginning of the eighteenth century, when we find craft consciousness awakening and trade organizations beginning to appear. A pioneer textile manufacturer remarks in a letter written in 1791, "Here the demand for labor is chiefly agricultural and the wages seem to be regulated by it."¹¹

9. See page 9, P. 1.

10. Dedham Town Records, as reported in Bull. 429. U.S.D.L.

11. Manuscript letter of Geo. Cabot, Sept. 6, 1791, in Hamilton Papers, Library of Congress. Cf. footnote 34, p. 13 in Bull. 429. U.S.D.L.

Other than handicraft, the chief industries of this early period in Massachusetts were the building trades, the iron works set up at Saugus in 1613 following the discovery of bog ore, glassmaking in Salem established in 1639, fulling mills for finishing woollen cloth, and later, weaving and dyeing, and shipbuilding. With one exception, these industries did not employ unskilled labor, and hence offered alternative employment to the farm laborer only after an apprenticeship of varying periods of time. The early textile occupations, which constitute the exception and which did employ unskilled labor, were given over to women and children, and therefore offered no competition to agriculture.

The expressions "common labour" and "labouring men" appear frequently in the old records, but it is not at all certain that common labor then meant what it does now, or that the "labouring men" referred to were unskilled workers and not craftsmen. Laborers as distinguished from both agricultural laborers and craftsmen¹³ were paid 33 cents (2s.) a day, with slight variation, from 1753 to the Revolution. In four years of that period, 1758 to 1761, the average rate fell to 25 cents, and in 1762 to 17.8 cents. The highest rate given in the decade following the outbreak of the war was 79 cents in 1779; the lowest, 23 cents, in 1777.

13. History of Wages and Prices, 1752-1883. Massachusetts Bureau of Statistics of Labor. p. 137 (Cf. *ibid*, footnote 21, p. 137).

P. 3. Real wages and labor status.

"High American wages" date from the beginning of the country, to judge from evidence contained in the earliest colonial records, but viewed from this distance, neither the wages nor the working conditions, so far as history records them, appear either "extravagant" or "inviting," but it is undoubtedly true that wages began in the colonies at a higher rate than was being paid in Europe at the same time.¹³

Present day cost of living is, of course, no criterion of the status of the laborer's wage at any other period, which must be arrived at only by comparing his actual earnings with the cost of living of his time.

Adequate cost of living data for this era is non-existent, but the prices per pound of butter, beef and pork, from 1633 to 1749, are shown in Table 6 (see p. 21). With butter at 12 cents a pound, beef at $3\frac{1}{2}$, and pork at 4, the cost of the worker's food is about in line with the wages paid.

An interesting comparison of labor rates and prices of commodities in Boston between 1785 and 1805 appears in Table 7 (see p. 22). A glance at the per cent of change in cost of the individual items will serve to bring out labor's comparative loss in purchasing power during the twenty years.

F. A. Shannon makes the following statements regarding real wages at this time:¹⁴ "Based even on values of that day

13. Cf. footnote 6, p. 2.

14. Shannon, Fred A. *Economic History of the People of the United States*. Macmillan Co. N.Y. 1934. pp. 74, 95.

Table 6

Prices of Butter, Beef and Pork in the New England Colonies*
1633 to 1749
in American equivalent of prevailing English prices

Year	Price per Pound		
	Butter	Beef	Pork
1633	0.12	-	-
1637	.14	-	-
1653	-	0.04	0.06
1655	-	.035	.05
1657	.08	-	.04
1670	.08	-	.04
1678	.07	-	.05
1685	.13	.03	.035
1687	.06	.03	.04
1690	.06	-	-
1692	-	.03	-
1695	.06	-	-
1698	-	.03	.04
1704	-	.018	.03
1711	.10	-	-
1712	.14	.05	.06
1719	.08	-	-
1727	.07	-	-
1733	.06	.03	.05
1740	-	.03	-
1741	-	.04	.04
1747	.13	.04	.06
1748	.18	.05	.07
1749	.16	.055	.08

* Bull. No. 433. U.S.B.L. p. 20.

Table 7

Prices Current in Boston, 1785-1805
from authentic documents*

Commodity	1785	1790	1795	1800	1805	↑ in- crease '85-'05
Lands, improved, near towns, per A.	\$30.00	\$50.00	\$100.00	\$150.00	\$350.00	733
Labour, per day	.50	.50	.25	.30	.75	50
Wheat, per bu.	.80	.85	1.30	2.10	3.05	156
Rye, per bu.	.85	.60	.75	1.10	1.06	63
Corn, per bu.	.40	.50	.60	.95	.35	137
Beef, per barrel	8.00	8.00	8.50	10.00	12.00	100
Pork, per cwt.	4.00	5.00	5.50	6.00	7.50	87
Butter, per lb.	.10	.12	.13	.15	.19	90
Cheese, per lb.	.065	.08	.11	.12	.15	130
Potatoes, per bu.	.11	.14	.18	.20	.30	173
Tallow, per lb.	.06	.10	.11	.13	.135	125
Lard, per lb.	.06	.11	.115	.135	.135	125
Codfish, cwt.	2.50	3.50	4.00	4.00	4.50	80
Rice, cwt.	3.00	3.50	4.00	4.50	5.50	63
Flour, barrel	4.50	5.50	7.00	10.50	11.50	155
Tobacco, cwt.	3.25	4.25	5.75	6.00	7.00	115
Herring, barrel	2.50	3.00	3.00	4.00	4.00	60
Hams, lb.	.075	.09	.11	.12	.13	73

* Bull. No. 439. U.S.E.L. p. 21.

these were practically starvation wages. Only by the help of women and children in the harvest fields and long hours of work at night, weaving or spinning for some neighboring capitalist, could an existence be eked out." "Massachusetts Bay in 1633 set the upper limit for skilled labor at 2s. a day or 14d. and food, the day being from sunrise to sunset... The day's pay was about the same as that of an English plowman for a week, but the cost of living was relatively high. Since 10d. was considered the value of a day's food for one, it can be seen that 2s. would not go far in supporting a family."

The following "estimated expense of clothing a family of 6" for a year in the early part of the nineteenth century is not for any specified locality, and unfortunately gives no hint as to either quantity or quality of clothing purchasable on that budget.¹⁵ It reads:

Man and Wife, at \$35.40 each	\$70.80
One child above 16	35.40
Three children under 16, at \$23.25 each	71.25
	<u>\$177.45</u>

Obviously the customary standard of living varied markedly from even the lowliest of today. Food was coarse and monotonous, clothing rough and scanty. Homes had few comforts. Local production was depended on for all the necessities of life, but meager as it might seem today, it was as unattainable for the agricultural laborer of 1805 as ours is for the agricultural worker of today.

15. Cf. footnote 6, p. 9.

P. 10. Advancement from wage labor.

The acquisition of farms in this country by industrious and thrifty families was a conspicuous feature of national economy from the beginning. This was as true in Massachusetts in the colonial days as elsewhere. Obviously if the hired laborer could look forward to owning his own farm within a reasonable time, he was willing to work long hours and to receive meager compensation, just as an apprentice to a trade. In fact, the agricultural laborer's job held much the same position, in his mind, that the work of an apprentice did to its holder. Even to the indentured servant, who could look forward to eventual freedom from servitude, the job of farm laborer was thought of as the next step up toward the acquisition of a farm in his own right. The agricultural ladder was practically open to all who would to climb. The meager wage was looked upon as temporary, soon to be superseded by farm tenancy and farm ownership.

"Said the Irish traveler, Thomas Mooney, in 1850: 'The lowest wages going in the United States for a labourer's day's work is seventy cents, or about three shillings British money. This would be 18s. for a week; and you can obtain good board, lodging and washing for a little less than the ten British shillings, or \$2.50 a week. So that you will be able to save 7 or 8 shillings a week to buy a farm, which farm you can buy for 5 shillings an acre.'"¹⁶

16. Faulkner, H. U. American Economic History. Harper & Bros. 1931. pp. 315-316.

IV

Agricultural Labor Status in Massachusetts
1850 to Present Era

P. 1. Trend of wage rates.

A statistical summary of wage rates for agricultural labor both in the United States as a whole and in Massachusetts, covering the period from 1866 to 1934 is shown in Table 8 (see p. 26). There has been an outstanding increase in actual dollars paid in all categories of wage payments both for the United States as a whole and for Massachusetts, during this period. This is true for all forms of wages, whether paid monthly or by the day. But for every dollar earned, on an average, by a farm laborer in Massachusetts in 1866, under contracts which included board, \$3.45 was earned in 1920, while for the United States average, for each dollar earned in this category in 1866, \$4.62 was earned in 1920.

The most notable fact, however, is the margin by which the Massachusetts wage scale exceeds that for the United States for the entire period under observation. Whereas the 1866 average for the United States was \$10.09 (in terms of gold) per month with board, the figure for Massachusetts (for contracts for hiring by the year) was \$15.74, giving a dollar-margin of \$5.65 to the Massachusetts laborer, or, in other words, a wage 56 per cent higher in that state. In 1920, however, wages in Massachusetts standing at \$55.00 per month with

Table 8
Average Monthly Wage Rates of Outdoor Farm Labor
1886-1934*

Year	United States		Massachusetts	
	With Board	Without Board	With Board	Without Board
	per month	per month	per month	per month
1886**	10.08	15.50	15.74	37.41
1889**	9.37	15.50	16.37	36.39
1875**	11.16	17.10	17.58	37.38
1879	11.86	16.79	15.24	34.85
1880	11.70	17.93	15.40	38.60
1881	12.32	18.52	15.44	25.33
1882	12.98	19.11	18.25	30.66
1885	13.08	19.23	17.85	28.75
1888	13.23	19.67	18.00	39.50
1890	13.29	19.45	18.50	30.00
1892	13.48	20.02	18.00	29.70
1893	13.85	19.37	18.55	31.15
1894	12.70	18.57	17.10	29.07
1895	12.75	18.74	17.75	30.65
1898	13.29	19.16	17.64	30.54
1899	13.90	19.97	18.32	31.25
1902	15.51	22.12	19.36	33.22
1906	18.73	26.19	23.69	37.14
1909	20.48	28.09	26.52	41.40
1910	19.58	26.04	23.75	37.30
1911	19.85	28.33	23.80	38.70
1912	20.46	29.14	24.60	39.10
1913	21.27	30.21	25.50	42.30
1914	20.90	29.72	25.00	41.10
1915	21.08	29.97	25.20	41.50
1916	23.04	32.58	30.00	46.70
1917	25.64	40.19	38.00	58.00
1918	35.13	49.13	43.00	68.50
1919	40.14	56.77	45.00	71.00
1920	47.24	65.05	55.00	85.00
1921	30.35	43.58	41.00	67.00
1922	29.31	42.09	41.00	68.00
1923	33.09	46.74	50.00	80.00
1924	33.34	47.22	48.50	79.75
1925	33.88	47.80	50.00	78.00
1926	34.86	48.86	52.00	79.00
1927	34.58	48.63	52.00	83.00
1928	34.66	48.65	49.00	80.00
1929	34.74	49.08	51.15	81.75
1930	31.14	44.59	48.87	78.25
1931	23.60	35.03	41.81	71.37
1932	17.53	26.67	32.56	56.37
1933	15.86	24.51	28.06	51.31
1934	17.69	27.17	28.00	53.69

*U.S.D.A.

**In terms of gold.

board topped the figure for the United States by 17.76, or only 16 per cent. Thus, although the differential advantage for the Massachusetts worker still existed in 1920, it was far less than it had been in 1866.

In 1866, as shown by Table 2, farm wages for the United States were 55 per cent of the 1910-14 average. After 1880, they slowly rose to 67 per cent in 1893, but abruptly fell to 61 in 1894. They slowly improved during the remainder of the nineties, rose rapidly until 1906, and continued to rise at a less rapid ^{rate} until 1916 when, under the influence of World War conditions and post-war expansion, they reached a peak in 1920 which was 239 per cent of the 1910-14 average.

For Massachusetts the increase in farm wages during the period of the World War was also phenomenal. If the index numbers for average farm wage rates in the United States and in Massachusetts for the period 1910-1920 be compared, it will be seen that the index for the United States rose 142 points, and that for Massachusetts, 133.

Between 1920 and 1930, the index for the United States fell 87 points, while for Massachusetts it dropped only 23.

To quote from the Yearbook of Agriculture for 1935,¹⁷

"The economic collapse which began in the autumn of 1929 did not greatly affect farm wages or costs until the following year. From then through 1932 its effect was marked. There were no seasonal gains to check the fall of farm wages until

17. Folsom, Josiah C. Farm Laborers in United States Turn to Collective Action. Yearbook of Agriculture. U.S.D.A. 1935. p. 189.

Table 9

Index Numbers of Farm Wage Rates*
1910-1914=100

Year :	United :	Massachu- :	Year :	United :	Massachu-
: States :	setts** :	:	: States :	setts** :	:
1866	55	65	1916	112	123
1869	54	67	1917	140	156
1875	58	73	1918	176	177
1879	56	63	1919	206	185
1880	59	64	1920	239	226
1881	62	64	1921	150	169
1882	65	75	1922	146	168
1885	65	74	1923	166	206
1888	66	74	1924	166	199
1890	66	76	1925	168	194
1892	67	74	1926	171	217
1893	67	77	1927	170	208
1894	61	71	1928	169	204
1895	62	73	1929	170	212
1898	65	73	1930	152	203
1899	68	76	1931	116	174
1903	76	80	1932	86	134
1906	92	94	1933	80	116
1909	96	110	1934	20	116
1910	97	94			
1911	97	98			
1912	101	101			
1913	104	105			
1914	101	103			
1915	102	104			

*U.S.D.A. **With Board.

after April 1933. (For the United States) They fell to four-fifths of the average of the 5 pre-war years. The farm-wage index declined to a third above that of farm-commodity purchasing power, and a quarter below that of farm costs of living. Farm-commodity purchasing power suffered a two-fifths drop to barely over half that of the pre-war period." ... "In 1933 it was 53 per cent of the base period; a gain in 1933 brought it up to 58 per cent."

During 1935 the index for Massachusetts continued the rise noted in 1934 and in October reached the highest point for that month since the year 1931.

P. 2. Perquisites in addition to board.

In addition to the money wages and board which the farm laborer received, there were numerous extras for the value of which no reckoning in money was reported. For the period under consideration, these included such diverse utilities as "the use of dwelling and garden, stable for cow or horse; feed for cow, horse, swine or poultry; pasture for cow, horse, or swine; butter, eggs, milk, fruit, vegetables for family use; firewood for his dwelling and the use of a team to haul it; the occasional use of a team for hauling for other purposes; the laborer may receive in addition to his rate of wages one meal a day, or laundry service, or occasional use of horse and buggy."¹⁸ Generally only one or a few allowances were made to the same laborer, and may be considered to have added anywhere from 50 cents to \$4.00 to the value of the month-

18. Holmes, Geo. K. Wages of Farm Labor. Bureau of Statistics. U.S.D.A. 1912. p. 49.

ly wage.

P. 3. Length of work week.

As in the preceding chapter on the colonial period, data on the number of hours worked per week by farm laborers in Massachusetts for the period, 1850-1919, are not available. Again, it will be necessary to assume a similarity with conditions existing in other states and to quote such figures as are available. These may be found for the period 1861-1899 in Table 10 (p. 31) and will be seen to vary from 54 to 78, thus showing a greater variation between states and years than during the earlier period, although it might be said that the average and customary working week remained approximately the same length.

No data on length of the work week has been found for the period 1900-1919, but an estimate for 1920 for the continental United States of the hours actually worked per week by the average employee in all types of industries, including agriculture, made by the National Bureau of Economic Research¹⁹ and shown in Table 11 (p. 32) is most enlightening.

Although the average work week has declined from 68 hours, which existed up to 1890, to about 52 hours in 1920, it will be seen that the average for agriculture is larger than the average for all industries combined. Only employees in domestic and personal service and in retail trade worked more hours per week than did the agricultural workers. Moreover, for labor contract-ing for the month, Table 12 (p. 33) records a longer working week for New England than for any other section

19. King, W.I. Employment Hours and Earnings in Prosperity and Depression, U.S. 1920-1922. Nat. Bur. of Ec. Res. 1923.

Table 10
Number of Hours Worked per Week by Farm Labor*
1861-1899

Year	State	Hours per Week	:	Year	State	Hours per week
1861	New York	66	:	1885	Florida	60
1862	New York	66	:		Kansas	60
1863	New York	66	:		New Jersey	60
1864	New York	66	:			73
1865	New York	66	:		New York	63
1866	Iowa	60	:	1886	Alabama	60
	New York	66	:		Florida	60
	South Carolina	60	:		Illinois	75
1867	New York	66	:		Louisiana	70
1868	Illinois	60	:		New York	63
	New York	66	:	1887	Kansas	72
1869	Alabama	60	:		New York	63
	Missouri	60	:	1888	Colorado	73
	New York	66	:		New York	63
1870	Florida	60	:	1889	New York	63
	Illinois	60	:		North Carolina	66
	Louisiana	66	:	1890	New York	63
	Missouri	60	:		North Carolina	78
	New York	66	:	1891	New York	63
1871	New York	66	:	1893	Iowa	71
1872	Illinois	60	:		North Carolina	72
	New York	66	:	1893	Florida	60
1873	New York	66	:		Illinois	61
1874	New York	66	:		Maryland	69
1875	New York	66	:		Missouri	60
1876	New York	63	:		Montana	54
1877	New York	63	:			58
1878	New York	63	:			62
1879	New Jersey	70	:		New York	66
	New York	63	:			72
1880	New Jersey	61	:		North Carolina	71
	New York	63	:		Pennsylvania	72
	North Carolina	60	:	1894	Georgia	60
1881	Louisiana	60	:		Illinois	60
	New York	63	:		Iowa	78
1882	New York	63	:		Montana	63
1883	New York	63	:		New York	60
1884	California	68	:		North Carolina	69
	New York	63	:	1895	Iowa	60
			:	1896	California	60
			:	1897	Kansas	75
			:	1898	Nebraska	67

*Bosch, J.C. History of Wages in the United States from Colonial Times to 1928. Part 2. Bur. of Lab. Stat. B. 499. 1929.

Table 11

An Estimate for the Continental United States of the Hours
Actually Worked per Week by the Average Employee*

Industry	Average Hours Actually Worked per Week 1920			
	First quarter	Second quarter	Third quarter	Fourth quarter
All Industries	50.1	49.9	50.3	49.4
Agriculture	51.2	52.0	53.6	51.3
Extraction of Minerals	47.6	46.9	48.0	48.0
Building and Construc- tion	43.6	43.9	44.0	44.2
Other Hand Trades	49.6	50.5	50.1	50.2
Finance	45.7	45.3	45.9	45.5
Public & Professional Service	49.1	49.1	49.3	49.1
Domestic & Personal Service	56.1	55.5	55.6	55.9
All Transportation	51.1	51.3	52.3	51.2
Steam Railways	51.5	51.7	52.9	50.9
Other Transportation	50.4	50.7	51.1	51.8
Commerce & Trade	52.1	52.3	52.1	52.1
Wholesale	49.6	50.2	50.1	50.2
Retail	52.4	52.6	52.4	52.3
All Factories	49.3	49.6	48.7	47.4
Food, Drink & Tobacco	49.8	50.4	50.8	50.9
Lumber & Its Products	50.6	51.0	51.3	49.9
Metals & Metal Prod'ts ¹	50.9	49.2	49.6	47.9
Paper & Printing ²	47.7	47.6	47.9	47.6
Mineral Products ²	49.6	49.9	49.4	49.3
Textile & Leather Prod- ucts ³	45.6	45.3	45.0	43.0

*King, W. I. Employment Hours and Earnings in Prosperity and Depression, U.S., 1920-1922. National Bureau of Economic Research. 1923. p. 87.

1. Vehicles, railroad cars, and all products not elsewhere recorded are included here.
2. Includes chemical, stone, glass, and clay products.
3. Includes clothing of all kinds.

Table 12

Average Hours Worked per Week by Hired Male Employees While
Employed on the Farms of the United States*
1930

Form of Con- tract	No. of Farms : Rept'g	Section	First : quarter	Second : quarter	Third : quarter	Fourth : quarter
Working By The Month	: 6,348	United States	55.3	58.9	60.0	56.5
	: 585	New Eng.	63.4	64.8	64.4	62.3
	: 403	Mid. Atl.	60.7	62.4	63.1	61.1
	: 1,138	E.N. Cen.	57.5	61.5	62.7	59.3
	: 1,419	W.N. Cen.	57.6	63.4	64.5	59.7
	: 710	S. Atl.	49.2	53.6	54.2	50.7
	: 768	E.S. Cen.	50.6	53.1	54.4	51.0
	: 658	W.S. Cen.	52.2	54.2	58.1	54.4
	: 407	Mountain	55.6	58.1	57.6	55.9
	: 260	Pacific	57.9	59.9	60.7	58.4
Working By The Day	: 5,978	United States	47.2	47.9	50.7	47.5
	: 542	New Eng.	52.4	50.9	52.3	49.2
	: 363	Mid. Atl.	44.8	47.1	52.7	48.7
	: 1,066	E.N. Cen.	41.9	47.4	49.2	45.2
	: 1,351	W.N. Cen.	48.0	51.6	49.5	50.9
	: 677	S. Atl.	50.9	46.5	48.7	45.9
	: 708	E.S. Cen.	41.6	42.4	46.8	43.3
	: 615	W.S. Cen.	43.4	46.7	50.1	45.6
	: 396	Mountain	50.6	53.7	54.5	56.6
	: 260	Pacific	52.8	53.4	55.8	52.2

*Cf. King, p. 92. (See footnote to Table 11).

of the United States. For contracting by the day, the contrast between New England and other parts of the country is not so great.

To quote from the same source, in regard to hours worked by the average farm employee:

"The man who has spent all his life in the city is apt to dream of the leisurely life of the farmer. The boy reared on the farm has, however, a different view of farm life; for he remembers vividly both the mornings in summer when, on being called from a comfortable bed at 4 A.M., he tumbled out feeling that the night had scarcely begun, and the late evenings when he milked the cows by the light of a lantern.

"Have times changed and is the city man right who dreams of easy life on an idyllic farm, or do the farmers still toil early and late as in former years?"

The author's question is partially answered by a glance at Table 12, which shows "that the average farm-hand working by the month now puts in something over 55 hours in winter and 60 hours in summer during each week that he is employed. The day worker, however, has a much easier time, for he, as a rule, works nearly ten hours less per week. In the North, the man working by the month still labors from 63 to 66 hours per week in summer, which means a ten-hour day for six days besides part time on Sunday. The day hand in the same section, even in the busiest season, works less than nine hours a day and has Sunday off.

.....

"On the whole, the figures seem to indicate that the

short hours prevailing in the city have brought about somewhat similar hours for day workers in the country but that the typical 'hired man' - that is the one who works by the month - still puts in much longer hours in summer than does the city worker and that, even in the winter, if he remains employed, he works for more hours than are required in most urban occupations."

P. 4. Supply of farm labor.

The agricultural census of 1880 is the first accurate source of information as to number of agricultural laborers in Massachusetts. Table 13 (p. 36) shows for Massachusetts the total population, population 10 years old and over, those 10 years old and over engaged in gainful occupations, those of this group engaged in agriculture and those engaged as agricultural laborers, by sex, for 1880, 1890, 1900, 1910, 1920 and 1930. While there is an increase in total numbers gainfully employed during this period, there is a marked decrease in total numbers engaged in agriculture. Of these latter, however, the percentage employed as agricultural laborers has increased from 34.8 in 1880 to 54.2 in 1930. The percentage of all men in Massachusetts who are engaged as farm laborers has steadily increased, from 34.5 in 1880 to 55.3 in 1930. While this is true regarding percentages of total persons engaged as agricultural laborers, the percentage of women in agriculture first decreased, then rose again, but the numbers of women engaged as agricultural laborers steadily declined.

During the period of the World War due both to increased military needs and to greatly increased industrial activity the farm labor supply was drastically curtailed. Figures are not available, but the many studies made by federal and state services to assist the farmer to get his needed help bear evidence of the shortage. This was merely a war-time phenomenon and it will be seen that by 1920 the shortage had disappeared and the numbers employed in agricultural labor had returned to their former level.

With the coming of the great depression began a new exodus from cities to farms. During 1935 this movement has declined, due to some improvement in opportunities in non-agricultural employment, more adequate relief, and, according to the United States Department of Agriculture,²⁰ growing difficulty of finding available housing on farms.

P. 5. Alternative employment.

Before considering the question of alternative employment open to the agricultural laborers of Massachusetts during this period, it will be interesting to quote a paragraph discussing the influence of nearby cities on the wages of farm labor, from a bulletin published by the United States Department of Agriculture,³¹ in 1912.

"When employments are competitive, their wage rates must

20. Crops and Markets. United States Department of Agriculture. July, 1935.

31. Holmes, Geo. K. Supply of Farm Labor. Bureau of Statistics. Bull. 94. U.S.D.A. 1912. p. 38.

be competitive. Many an agricultural laborer can become the conductor or motorman of a street, suburban, or interurban electric car; he can find employment in numerous directions in the nearby town or city, or shop or factory. If the farm does not meet the competition of other employments, it must suffer the loss of some of its laborers. This in fact is what has happened in this country. The farm has lost laborers and has been unable to obtain laborers because it has not met the wages of competitive employments. The effort of the farm to meet the competition for its labor is often apparent within a rim of country surrounding cities of considerable size."

In another study,²² the same Bureau obtained farm wage rates of counties containing cities of more than 25,000 and compared them with wage rates in the rest of the state. The data for Massachusetts, for all categories of farm labor, has been compiled in Table 14. It will be seen that in 1908,

Table 14

Average wage rates of outdoor labor of men on farms, Mass., 1908*
(comp. of counties with cities of 25,000, with rest of state)

Period and Contract	Without Board		With Board	
	City Counties	Rest of State	City Counties	Rest of State
Rates per month				
hiring by year	\$37.78	\$37.50	\$22.56	\$23.67
by season	44.29	43.75	29.71	38.33
Rates per day				
harvest work	2.01	2.08	1.54	1.81
other than harvest	1.67	1.75	1.08	.75

*Cf. footnote 18, p. 29.

there was very little attempt by the farmer to meet non-agricultural wage rates. In fact, for labor hired by the year, with board, the monthly wage rate in counties containing cities of

22. Holmes, Geo. K. Wages of Farm Labor. Bur. of Statistics.
Bull. 33. U.S.D.A. 1912.

more than \$5,000 was less than in the rest of the state. This was true also of the day rate paid for harvest labor both with and without board, and for other than harvest labor, without board.

A history of the development of the various industries in Massachusetts which offered work to unskilled laborers during the period under consideration could be made the subject of an entire study. It will suffice here to mention the rise of the textile, shoe and leather, machinery and tools, and rubber goods industries.²³ All of these offered work of a sort even to the unskilled laborer, but it must be remembered that the great list of occupations using unskilled workers, including employment as teamsters, janitors, carpenters' helpers, hod carriers, and many others, increased the possibilities for employment in neighboring cities as these grew in size.

As President Kenyon L. Butterfield of the Massachusetts Agricultural College (now Massachusetts State College) said in 1911,²⁴

"All over the north at least farm labor is scarce, but perhaps New England farmers suffer more than any others because of the presence of the large number of mill villages which tempt farm boys and girls from the surrounding regions to steady positions, even at small wages, in exchange for what have seemed to be the uncertainties of the farm."

23. See Appendix B.

24. French, Geo. New England. Boston Chamber of Commerce. 1911. p. 113.

But contrast with this the remark of the author of this
 same volume ²⁵ :

"The question of farm labor very properly comes to the front in contemplating the farm proposition, whether in or out of New England. The problem is one which must be carefully handled every where. In this respect New England is possibly better off than some other parts of the country. The cities and large towns are liable to have an excess of labor, and with well-distributed trolley systems it is not wholly difficult to get farm laborers to go into the country."

A comparison of average monthly wages for Massachusetts farm labor, with and without board, and of the weighted average wages of unskilled labor in the manufacturing industries of the United States, 1890-1924, is presented in Table 15, (p. 41), since no such figures for unskilled labor as a whole for the state of Massachusetts are available.

Wages paid to laborers in building and metal trades, and to longshoremen in Boston, as well as wages paid to laborers in foundries, machine shops, dyehouses, and to teamsters in Massachusetts, for various years between 1840 and 1928 are shown in Tables 16 and 17, on the succeeding pages, (pp. 42, 43).

Since it is a common practice for agricultural laborers to

25. French, Geo. New England. Boston Chamber of Commerce.
 1911. p. 123.

Table 15

Comparison of Wages Paid to Unskilled Laborers
in Manufacturing Industries and Farm Wages Without
Board (U.S.) and Massachusetts Farm Wages Without
Board

1890-1924

Year:	: Wages Paid Un- skilled	: Monthly Wages of Farm Labor, without Board	
	: Labor-U.S.*	: U.S.**	: Mass.***
1890	\$37.45	\$19.45	\$30.00
1892	37.62	20.02	29.70
1893	37.54	19.97	31.15
1894	35.86	18.57	29.07
1895	36.34	18.74	30.66
1898	36.68	19.16	30.54
1899	37.41	19.97	31.35
1902	39.78	22.14	33.32
1906	44.46	26.19	37.14
1910	45.80	27.50	37.20
1911	43.60	28.77	38.70
1912	44.38	29.58	39.10
1913	46.61	30.31	42.30
1914	46.35	29.88	41.10
1915	45.80	30.15	41.50
1916	59.25	32.83	46.70
1917	73.87	40.43	58.00
1918	93.27	48.83	66.50
1919	102.47	56.29	71.00
1920	111.71	64.95	85.00
1921	86.47	43.32	67.00
1922	85.18	41.79	68.00
1923	93.57	46.91	80.00
1924	83.70	47.53	79.75

*Coombs, Whitney. Wages of Unskilled Labor in
Manufacturing Industries in the United States,
1890-1924. Columbia University Press. 1926.
p. 99. (Figures reduced to monthly equivalent).

**Ibid. p. 103.

***United States Department of Agriculture.

Table 16

Wages of Laborers in Building and Metal Trades,
in Foundries, Machine Shops and Dyehouses
Boston and Massachusetts*
1890-1928

Year:	Earnings Paid per Month to Laborers Employed in				
	Building	Metal	Foundries	Machine	Dyehouses
	Trades	Trades		Shops	
	Boston	Boston	Mass.	Mass.	Mass.
1890	44.43	41.52			
1891	44.98	41.82			
1892	44.41	41.00			
1893	44.46	41.93			
1894	44.43	41.39			
1895	44.41	43.26			
1896	44.41	43.26			
1897	44.85	43.02			
1898	45.00	44.47			
1899	44.77	43.71			
1900	45.21	43.20			
1901	45.03	43.50			
1902	45.08	43.95			
1903	42.45	44.51			
1904	40.18	39.97			
1905	41.71	40.73			
1906	43.40	42.26			
1907	51.30	43.01			37.31
1908	61.93				34.67
1909	61.93				34.92
1910	61.33				34.68
1911	61.33				34.68
1912	56.76				36.52
1913	72.34				36.13
1914	72.34				36.63
1915	72.34				45.13
1916	72.34				
1917	77.40				56.27
1918	82.56				
1919	75.68				
1920	127.71				117.95
1921	127.71				83.25
1922	127.71				
1923	139.32		121.10	122.45	102.53
1924	134.16				
1925	134.16		103.02	122.40	83.22
1926	152.74				
1927	152.74		102.22	98.05	
1928	152.74				

*Based on figures given on pages 185, 295, 355, and 405, Bull.
#450, U.S. Bureau of Labor Statistics. Reduced to equivalent
monthly wage.

Table 17

Monthly Wages Paid to Longshoremen
and Teamsters, Boston*
1840-1938

Year	Wages of Longshoremen Boston	Wages of Teamsters Boston
1840		\$39.14
1850		35.55
1860		38.53
1870		42.59
1880		43.86
1890		45.67
1900		38.70
1913	\$33.72	30.11
1914	83.72	60.17
1915	55.35	60.17
1916	63.43	60.17
1917	63.43	63.58
1918	77.38	85.99
1919	123.38	33.70
1930	151.36	130.49
1931	151.36	130.46
1932	134.16	120.46
1933	144.43	120.46
1934	165.12	128.94
1935	151.36	128.94
1936	151.36	128.94
1937	151.36	128.90
1938	150.32	128.90

*Based on figures given on page 447,
Bull. #432, U.S. Bureau of Labor Sta-
tistics. Reduced to equivalent
monthly wage.

seek work in any common labor capacity, we have also included rates paid to hod-carriers and to stationary firemen. (See Table 18, p. 45).

To bring this comparison up to date, we include also wages paid to a few types of unskilled labor during the past few years, as reported by the Massachusetts Department of Labor and Industries. (See page 46).

During the past four years, demand for labor in all industries suffered a distinct drop, and the farm laborer's chances for alternative employment there fell in proportion. The index of employment in all manufacturing industries in Massachusetts for the years 1913 through 1934 may be seen in Table 20, page 47. The low point occurred in July 1932, when the index stood at 47 per cent of the 1925-27 average.

"The level of farm wages in 1890 as compared with 1913 was distinctly lower than that of unskilled wages in manufacturing compared on the same basis. In other words, the money wages of farm laborers rose to a greater degree from 1890 to 1913 than did the wages of urban unskilled workers... In agriculture wages did not rise as high during the war period as they did in manufacturing, and then decline in the post-war period was far more abrupt."³⁶

In any consideration of alternative employments, it must not be forgotten that many factors besides actual money wages enter into the comparative attractiveness of jobs. These include hours per week, conditions of employment, social status, urban versus ^{rural} opportunities for diversity of pleasure, etc. ³⁷

36. Coombs, pp. 103, 104.

37. But for further elaboration of this aspect, see P. 6, "Real Wages and Labor Status." page 48.

Table 18

Monthly Wages Paid to Hod-Carriers,
and Stationary Firemen, Boston and Massachusetts*
1840-1928

Year	Wages of Hod-Carriers Massachusetts	Wages of Stationary Firemen Massachusetts
1840		\$37.50
1850	\$18.58	40.45
1860	29.07	40.03
1870	54.70	42.10
1880	43.36	35.35
1890	42.15	38.18
	(Boston)	
1900	59.07	
1910	63.32	
1915	66.22	
1917	75.68	
1918	80.41	
1919	89.87	
1920	132.44	
1921	132.44	
1922	132.44	
1925	132.44	
1926	149.47	
1928	149.47	

*Based on figures given on pages 175 and 253,
Bull. #499, U.S. Bureau of Labor Statistics.
Reduced to equivalent monthly wage.

Table 19

Wages Paid Classes of Unskilled Labor
Massachusetts, 1932-1934*

		Monthly Wages Paid to Workers in		
Year:	Month:	Highway Construction:	Municipal Employment:	Trucking and Handling:
1932	Jan.	112.21	116.41	106.94
	Feb.	116.51	110.34	108.62
	Mar.	125.99	115.15	106.33
	Apr.	112.75	111.80	99.83
	May	102.03	113.43	104.03
	June	108.53	109.13	103.50
	July	112.14	108.03	107.41
	Aug.	103.56	107.03	101.52
	Sept.	103.97	106.33	106.34
	Oct.	101.78	104.66	99.76
	Nov.	83.38	105.73	103.85
	Dec.	81.38	107.30	101.44
	Ave.	109.55	109.61	104.13
1933	Jan.	111.58	109.56	99.34
	Feb.	101.44	96.84	98.90
	Mar.	102.56	102.72	98.21
	Apr.	92.45	105.23	98.81
	May	84.00	101.83	96.53
	June	93.83	101.48	102.90
	July	93.72	103.34	103.29
	Aug.	93.45	103.29	97.65
	Sept.	92.75	100.53	100.79
	Oct.	100.32	100.84	97.18
	Nov.	90.00	100.88	100.49
	Dec.	83.08	105.00	101.00
	Ave.	96.52	103.13	97.53
1934	Jan.	101.87	113.43	104.42
	Feb.	100.45	107.03	95.42
	Mar.	94.31	102.90	100.84
	Apr.	97.27	107.76	93.77
	May	82.09	103.77	104.42
	June	85.33	105.92	105.05
	July	90.77	104.45	105.61
	Aug.	90.56	101.37	107.11
	Sept.	88.29	100.71	105.26
	Oct.	79.81	102.73	107.20
	Nov.	78.95	100.49	107.13
	Dec.	81.79	106.55	109.99
	Ave.	89.27	104.16	104.23

*Massachusetts Department of Labor and Industries.
Weekly Wage reduced to monthly equivalent.

Table 20

Index of Employment - All Industries, Mass.*
(1925-27=100)

	1931	1932	1933	1934
January	71.9	60.7	58.1	68.5
February	73.7	63.6	60.3	71.8
March	74.4	62.4	56.2	74.1
April	74.7	56.9	56.4	73.6
May	73.3	52.9	58.5	72.4
June	71.4	50.2	62.9	68.2
July	69.9	47.0	69.0	66.5
August	73.5	54.4	73.2	67.2
September	73.0	59.7	75.1	56.5
October	67.1	62.2	76.5	67.6
November	64.0	61.4	72.9	66.6
December	61.1	59.1	69.1	69.0

*Mass. Dept. of Labor & Industries

P. G. Real wages and labor status

Any study of real wages must, of course, deal with the relation between money wages and the cost of living.

"In 1866 both farm and industrial wages stood at 78 per cent²⁸ of the 1910-14 average, while the cost of living in cities and towns was more than double that amount, or 158 per cent. Neither industrial or farm wages reflected the high-price level of Civil War days. Industrial wages advanced to about 85 per cent of the 1910-14 average during the first few years following the Civil War, while farm wages tended toward lower levels."²⁹

In a study made by Dr. I. M. Rubinow for the period 1890-1912,³⁰ a comparison of wage rates for fifteen different industries (not including agriculture) as published by the United States Bureau of Labor Statistics³¹ and price material based upon the average annual retail prices of 15 food commodities was made. This was continued by Dr. Paul H. Douglas and Frances Lamberson to include the period 1913-1918.³² The second study differed slightly in material used but yielded comparable figures.

28. Table 9 gives the index for farm wage rates for 1866 as 55, but it must be remembered that the wages for the period 1866-1878 were in terms of gold, so that the above percentage is not comparable.

29. Yearbook of Agriculture, 1926, pp. 756-7. Sarle, C. F.

30. Rubinow, I. M. "The Recent Trend of Real Wages." American Economic Review. Vol. IV. (Dec. 1914). pp. 718-217.

31. In bulletins 128, 129, 134, 135, 137, and 141.

32. Douglas, P. H. and Lamberson, F. "The Movement of Real Wages, 1890-1918" American Economic Review, Vol. XI. (Sept. 1921) pp. 400-426.

Dr. Rubincov's conclusions as to trend of real wages during the first period may be briefly summarized as follows:

Real wages increased from 1870 to 1890, largely because of a falling price level. This increase occurred during a period of depression and could scarcely result in a material improvement of the condition of the working class.³³ Although wages rose after the Spanish War, retail prices rose so much faster that the wage level suffered materially. Purchasing value of wages probably increased slightly between 1870 and 1890, but after 1900 it fell rapidly. The purchasing power of wages in 1913 was not much higher than in 1870.

For the second period, 1912-1916, Dr. Douglas concludes: "All the evidence seems to indicate that at the termination of the great war³⁴ the return in commodities which the American workman received for an equal length of time worked (one hour) was from 10 to 20 per cent less than it was in the decade 1890-1899, and from 7 to 17 per cent less than it was before the sharp upward movement of prices in 1916. The purchasing power of the established week's work, moreover, was from 20 to 30 per cent less than in the nineties and from 10 to 20 per cent less than in 1915. American labor, as a whole, therefore,

33. Dr. Brissenden, in his Census Monograph X, published in 1932, ("Earnings of Factory Workers, 1899-1927"), asserts that real wages fall in times of depression if the unemployment factor is applied to such figures as given in Rubincov's study (pp. xx-xxi).

34. "It is probable that labor gained ground upon the cost of living in 1919 and the early part of 1920. Whether this was sufficient to bring them back to the pre-war basis is uncertain. It is clear that it was not, so far as Boston, Mass., was concerned. The increase in hourly wage rates in organized occupations from July 1914, to July 1, 1920, was 83.5 per cent and for "full-time" weekly earnings 72.7

cannot legitimately be charged with having profiteered during the war. Rather, like Alice in Wonderland, it was compelled to run faster in order to stay in the same place."

A slightly different and perhaps more accurate method of examining real farm wages compares the wage index with the index numbers of the prices of commodities used by farmers in living, as published by the United States Department of Agriculture. The index of wages for farm labor in the United States and in Massachusetts and the index of farm living costs for the United States appear in Table 21, page 51.

Moreover, as shown in Census Monograph X (see footnote 33, p. 49) an index of real wages cannot be deemed wholly satisfactory unless it takes into consideration the loss of wages that comes from unemployment as well as increases or decreases in the actual wages paid. For the present study the computation of an index of either agricultural or industrial unskilled unemployment is impossible. The facts on wages tell part of the story, but not all of it. The only authoritative figures obtainable for unemployment among agricultural laborers in

per cent while the cost of living increased in Boston from December, 1914, to June, 1920, 110.7 per cent! See Massachusetts Industrial Review, Vol. I, #2 (July 1920) pp. 13-20 and mimeographed bulletin #964, U.S. Bureau of Labor Statistics.

Table 21

Real Wages of Farm Labor, 1910-1934
Indexes of Farm Family Living and of Wages Paid
to Farm Labor, United States and Massachusetts
1910-1914=100

Year:	: Index of Prices Paid by farmers for commodities used in living U. S.*	: Index of Farm Wages			
		: United States **	: Massachusetts***		
			: with board	: without board	
				:	:
1910	98	97	94		94
1911	100	97	98		98
1912	101	101	101		99
1913	100	104	105		107
1914	102	101	103		104
1915	107	102	104		105
1916	124	112	123		118
1917	147	140	156		147
1918	177	176	177		169
1919	210	206	185		180
1920	222	239	226		216
1921	161	150	169		170
1922	156	146	169		173
1923	160	166	206		203
1924	150	166	199		202
1925	164	168	194		196
1926	162	171	217		203
1927	159	170	208		201
1928	160	169	204		203
1929	158	170	212		208
1930	148	152	203		199
1931	126	116	174		182
1932	108	86	134		144
1933	109	80	116		131
1934	122	90	116		133

*United States Department of Agriculture.

**Ibid.

***Roy E. Moser, Massachusetts State College.

Massachusetts are those given in the Massachusetts Unemployment Census of 1930. At that time, as shown in Table 22 below, there were 3,145 unemployed farm laborers, or about 7 per cent of the 30,347 such employees in the state.

Table 22

Number of Farm Laborers, Employed & Unemployed
Massachusetts, 1930*

Classification	Total	Male	Female
Gainful Workers Employed as Farm Laborers	30,347	29,337	510
No. of Farm Laborers Out of a Job, Able to Work & Looking for Work	1,644	1,613	31
Farm Laborers Having Jobs but on Lay-Off without pay, excluding those sick or voluntarily idle	501	436	65
Total Unemployment in Both Groups	3,145	3,049	96

*Massachusetts Unemployment Census, 1930.

Part III

Rise of Market Gardening Industry in Massachusetts and Status of Labor Therein

"A society is rich when material goods . . . are cheap,
and human beings dear."

--- Tawney

Development of Market Gardening in Massachusetts
and Predominance of Middlesex County

P. 1. Changes in nature of agriculture

In a general way, we have traced the agricultural labor status for Massachusetts from early times to the beginning of what we may call the present era. We have attempted to show in so far as material was available how the Massachusetts laborer fared in comparison with his mythical brother, the "average laborer" for the United States.

But now it is time to take stock of the changes that have taken place in the nature of the agricultural industry in Massachusetts during the later phase of its development.

H. U. Faulkner, in his Economic History of the United States,³⁵ gives an admirable picture of the changing conditions which faced the Massachusetts farmer as early as 1850:

"After canals and railroads had provided an outlet for the bulky agricultural products of the West, the farmer of New England and the middle states found it impossible to compete successfully in the raising of grain and meat and was forced to reorganize his economy to that of truck farming, fruit raising, dairying, or tobacco culture."

35. Faulkner, H. U. Economic History of the United States. Harper and Brothers. New York. 1931. p. 344.

P. 2. As of 1890.

By 1890, the United States Census³⁶ describes more particularly the appearance of the market gardening industry:

"The production of fruits and vegetables for market has been prosecuted with great success in earlier days as a branch of general farming, and more recently as a specialty, known as market gardening. The business is usually carried on with a few highly enriched and thoroughly cultivated acres of ground and a rotation of crops, so grown that there may be a daily supply throughout a considerable portion of the year. The farms are usually within a reasonable driving distance of cities and towns, and the products are generally sold to the retailer, and in many cases, especially in the smaller towns, directly to the consumer."

P. 3. As of 1899.

The twelfth census reported a production of \$1,421,375 worth of vegetable products from Middlesex County in the year 1899.³⁷ In addition, Middlesex County showed the greatest per acre production of any county in the United States, and ranked second in valuation of its vegetable crops to only one, that being Queens County, N.Y., which had an area one-third larger than Middlesex and a valuation of vegetable products one-fifteenth greater.

36. Eleventh Census, U.S. Dept. of Commerce. 1890.

37. Twelfth Census, U.S. Dept. of Commerce. 1900.

P. 4. As of 1911.

The following quotation³⁸ describes the situation in 1911:

"As a state, Massachusetts ranks sixth in the Union, listed according to the valuation of her vegetable products. This ranking of Massachusetts, and particularly of Middlesex County, is very largely due to the high state of development to which vegetable growing under glass has been developed. Nowhere in the world is head lettuce produced so systematically and successfully in the glass house as in Middlesex County. There the business originated and there it has largely developed. The towns of Arlington and Belmont are dotted with the glass houses of winter vegetable growers. The chief products of these houses are lettuce and cucumbers, and these products find their markets throughout New England and New York state. Other products are grown, mainly tomatoes, radishes, parsley, mint, and cress, but these are entirely consumed in the home market and are of minor importance."

P. 5. Since 1920.

In a study of Farm Labor in Massachusetts³⁹ made in 1921, by J. C. Folsom of the Bureau of Agricultural Economics, the chief types of agricultural industry in the state are itemized as tobacco and onion production, apple growing, dairying and general farming, cranberry growing, strawberry growing, farm-

38. French, Geo. New England. Boston C. of C. 1911. pp.136-7.

39. Folsom, Josiah C. Farm Labor in Massachusetts. Bur. of Agric. Economics. Bull. #1230. 1921. U.S.D.A.

ing for summer-resorts, and market gardening.

The census of 1925 gives for all New England a total of nearly 48,000 acres devoted to market-garden products, but this apparently includes sweet corn grown for canning as well as that for fresh consumption. In the total figures Massachusetts is in the lead with 12,428 acres. The acreage in each State for each of the seven vegetables included in the census figures, is shown in Table 23.

Table 23.

Acreage in Market-Garden Crops in New England*
1925

Crop	New Eng.:	Maine:	N. Hamp.:	Vt.:	Mass.:	R.I.:	Conn.:
Cabbage	4,218	520	354	316	2,571	212	1,075
Cantaloup	407	33	16	19	144	38	167
Lettuce	1,153	67	40	33	800	55	173
Onions (dry)	3,236	64	52	86	3,422	42	270
Sweet corn	30,817	12,574	2,182	2,039	8,462	1,200	4,360
Tomatoes	3,455	180	133	96	1,618	360	1,179
Total	44,723	13,513	2,674	2,490	17,055	1,802	7,274

*U.S. Census of Agriculture, 1925.

A report⁴⁰ on the Industrial Structure of New England, issued by the Department of Commerce in 1930, gives a good

40. Industrial Structure of New England. U.S. Department of Commerce. Bureau of Foreign and Domestic Commerce. 1930. p. 42.

summary of the market gardening situation in Massachusetts for that year. To quote from this will bring the development of the industry down to the present time.

"The highest development of market gardening (in New England) is in the vicinity of the large industrial centers. The most important specialized market-gardening regions are an area in eastern Massachusetts, north of Boston, and a similar area south east of Providence, in Rhode Island. In these two districts the industry has been highly developed by farmers of native New England parentage, whose operations are carried on extensively in fairly large-sized units. Operations are conducted also on a smaller scale by Italians and others of foreign stock.

"The area adjacent to metropolitan Boston extends from Roxbury to Danvers, dipping down to include parts of the towns and cities adjacent to the northwestern border of the metropolitan area. The Providence area extends in a belt down through the center of Bristol County, in Massachusetts, to include the eastern edge of Rhode Island. There are several small market-gardening districts in northeastern Massachusetts which supply adjacent cities. Southwest of Worcester is the producing area which supplies that city. In the neighborhood of Fitchburg there are market-gardening activities of considerable importance, largely operated by families of Finnish stock, whose operations are mainly on a small scale. Similar local producing areas exist adjacent to Springfield, Pittsfield, and the larger cities of Connecticut. In the lower Con-

necticut River Valley, and in some other scattered areas which have the advantage of peculiarly good soil conditions, market-gardening is carried on by local farmers, who do not produce for any particular city but ship to various markets.

"Formerly the industry was located nearer to the consuming center, but in the last two decades the introduction of the motor truck has made more remote producing regions accessible to the centers of consumption. Expansion of residential areas of the cities through real-estate developments also has pre-empted much of the former gardening areas, so that the industry has been forced out into the surrounding country. The increase in land prices near the cities has made these changes profitable to the farmer owners, who are probably the only farming class which has profited materially from this source."

The value of vegetable crops grown in Massachusetts, by counties, for the years 1895, 1910, 1920 and 1930 is shown in Table 34 (see p. 58). The increasing pre-eminence of Middlesex County is noticeable, and would probably be even more outstanding but for the fact that for the years prior to 1930 the value of the potato crop was included, which somewhat obscured the earlier differences, since the potato growing counties have only a small crop in market garden vegetables.

From these figures it may be seen that in 1930 the second ranking county in value of vegetables raised was Bristol, where the valuation was less than half the figure for Middlesex County.

Table 24

Value of Vegetable Crops in Massachusetts*
by Counties

County	1895	1910	1920	1930**
Barnstable	\$ 73,859	\$ 94,062	\$125,320	\$ 96,586
Berkshire	247,509	392,757	790,942	86,160
Bristol	523,398	740,518	1,579,453	1,073,148
Dukes	29,159	15,399	38,739	3,466
Essex	641,989	917,988	1,492,159	933,594
Franklin	216,375	563,117	1,770,088	621,361
Hampden	344,620	552,291	796,648	427,653
Hampshire	228,733	596,542	1,915,020	633,128
Middlesex	1,427,519	2,435,695	3,735,377	2,216,838
Nantucket	17,794	8,544	9,815	7,124
Norfolk	185,292	331,969	503,873	258,725
Plymouth	290,027	378,791	784,972	365,189
Suffolk	97,654	139,853	171,189	52,038
Worcester	587,818	1,016,687	1,664,495	633,469

* 1895, from Massachusetts Agricultural Census. Other years from United States Census.

** Exclusive of potatoes.

VI

Status of Labor in Market Gardening Industry
Compared with That in Four Other Leading Ag-
ricultural Industries in Massachusetts

P. 1. The leading agricultural industries.

The five leading agricultural industries in Massachusetts today, as recognized by the Massachusetts Departments of Agriculture and Labor and Industries, are the dairy and stock, fruit, market gardening, cranberry and nursery industries. The following analysis attempts to show general conditions affecting labor in these five industries and to find the status of market garden labor in relation to the labor status in the other four. Statistics⁴¹ for employment and wages for the above industries for the three years, 1933-1935, have been used for this comparison.

P. 2. Numbers employed.

The total number of workers employed for any month dur-

41. Data for this comparison are limited to statistics obtainable from the Massachusetts Bureau of Labor and Industries. Statistics have been collected by that Bureau for individual agricultural industries only since January 1933. Reports have been obtained monthly from approximately 125 farms, representing only 5 per cent of such employers. Although the data are probably comparable as between the several industries, the average number of workers employed per farm may appear considerably higher than the true average for that specific industry for the entire state, inasmuch as the owners of the larger and better types of farms are the ones who are more interested in troubling to make the required monthly report. The figure for wages may be considered more representative of the true average wage, since the competition for workers will tend to bring all wages for individual industries to a common level for that industry.

ing the 36 months for which statistics are available on all farms included in this comparison⁴² varied from 668 in February, 1933, to 2558 in September, 1934. (See Table 25, p. 63). The average number employed per month for this period on all farms reporting was 1503. Thus we find a fluctuation in employment of from 56 per cent below the average to 70 per cent above.

However, the period 1931-1933 for which these figures are taken, was one in which there was a rapid change in employment conditions, and a truer comparison of employment for the five industries is to be obtained by using monthly averages for the same months of the three years.

With these three-year averages for total numbers employed, it will be noted that the minimum average monthly employment was 787 in February, and the maximum, 2335 in September. The average number employed per month for all farms studied being 1503, we find a fluctuation of from 47 per cent below the average to 49 per cent above.

Employment per month by industries may be seen in Tables

42. Since the number of farm-owners submitting reports to the Department month by month varies somewhat in each industry, it may be claimed that a somewhat more accurate presentation may be had by comparing average number of workers employed per farm in each industry for each of the 36 months. This comparison did not reveal results differing sufficiently from those presented to warrant inclusion in this study; moreover, since number of workers per farm in all industries is small, this calculation tended to obscure the differences by decreasing the units of dissimilarity. Moreover, there is a tendency for reports to be omitted from farms when employment is at low ebb oftener than when at peak, and the minimum figure thus appears erroneously large. This would make the maximum and minimum less comparable than when total figures only are used. For comparison, see Tables based on data per farm, also Chart 2a, Appendix A.

Table 25

Total Number of Workers Employed on all Farms
Reporting By Months, 1933-1935

Month	Number of Workers Employed			
	1933	1934	1935	1933-35 Average
January	673	820	948	814
February	668	831	863	787
March	695	829	944	823
April	1181	1435	1461	1359
May	1666	1856	1819	1780
June	1685	1967	1996	1882
July	1542	2061	1893	1832
August	1705	1791	1824	1773
September	2031	2558	2117	2235
October	2248	2067	1951	2088
November	1442	1497	1598	1512
December	1057	1056	1343	1152

Table 26

Number of Workers Employed in the Cranberry
Industry By Months, 1933-1935

Month	Numbers Employed			1933-35 Average
	1933	1934	1935	
January	43	57	80	60
February	52	67	55	58
March	69	60	43	57
April	143	75	141	120
May	215	180	203	199
June	246	248	317	270
July	253	249	297	266
August	203	173	213	196
September	597	774	336	569
October	861	737	480	693
November	379	376	320	358
December	220	95	202	172

Table 27

Number of Workers Employed on Dairy Farms By
Months, 1933-35

Month	Numbers Employed			
	1933	1934	1935	1933-35 Average
January	235	283	406	308
February	231	278	370	293
March	233	247	383	288
April	243	353	408	335
May	313	445	472	410
June	339	495	496	443
July	340	530	504	458
August	416	589	613	539
September	444	489	604	512
October	371	453	450	425
November	308	411	413	377
December	281	399	411	364

Table 28

Numbers Employed on Farms and Market Gardens
By Months, 1933-35

Months	Numbers Employed			1933-35 Average
	1933	1934	1935	
January	178	188	180	182
February	161	200	157	173
March	165	209	215	196
April	210	274	255	246
May	319	344	333	332
June	370	456	461	429
July	395	667	487	516
August	548	489	411	483
September	333	391	373	366
October	353	323	296	324
November	247	250	256	251
December	199	211	209	206

Table 29
Numbers Employed on Fruit Farms By Months,
1933-35

Months	Numbers Employed			1933-35 Average
	1933	1934	1935	
January	28	23	21	24
February	27	24	23	25
March	27	29	25	27
April	44	31	32	36
May	46	34	32	37
June	44	51	36	44
July	58	58	36	51
August	74	59	89	74
September	181	419	307	302
October	161	67	243	157
November	59	54	163	92
December	45	45	162	84

Table 30

Numbers Employed on Nurseries By Months,
1933-35

Months	Numbers Employed			1933-35 Average
	1933-	1934	1935	
January	189	269	261	240
February	197	262	258	239
March	201	284	278	254
April	541	702	625	623
May	773	853	779	802
June	686	717	686	696
July	496	557	559	537
August	464	481	498	481
September	476	485	497	486
October	502	487	482	490
November	449	406	446	434
December	312	306	359	326

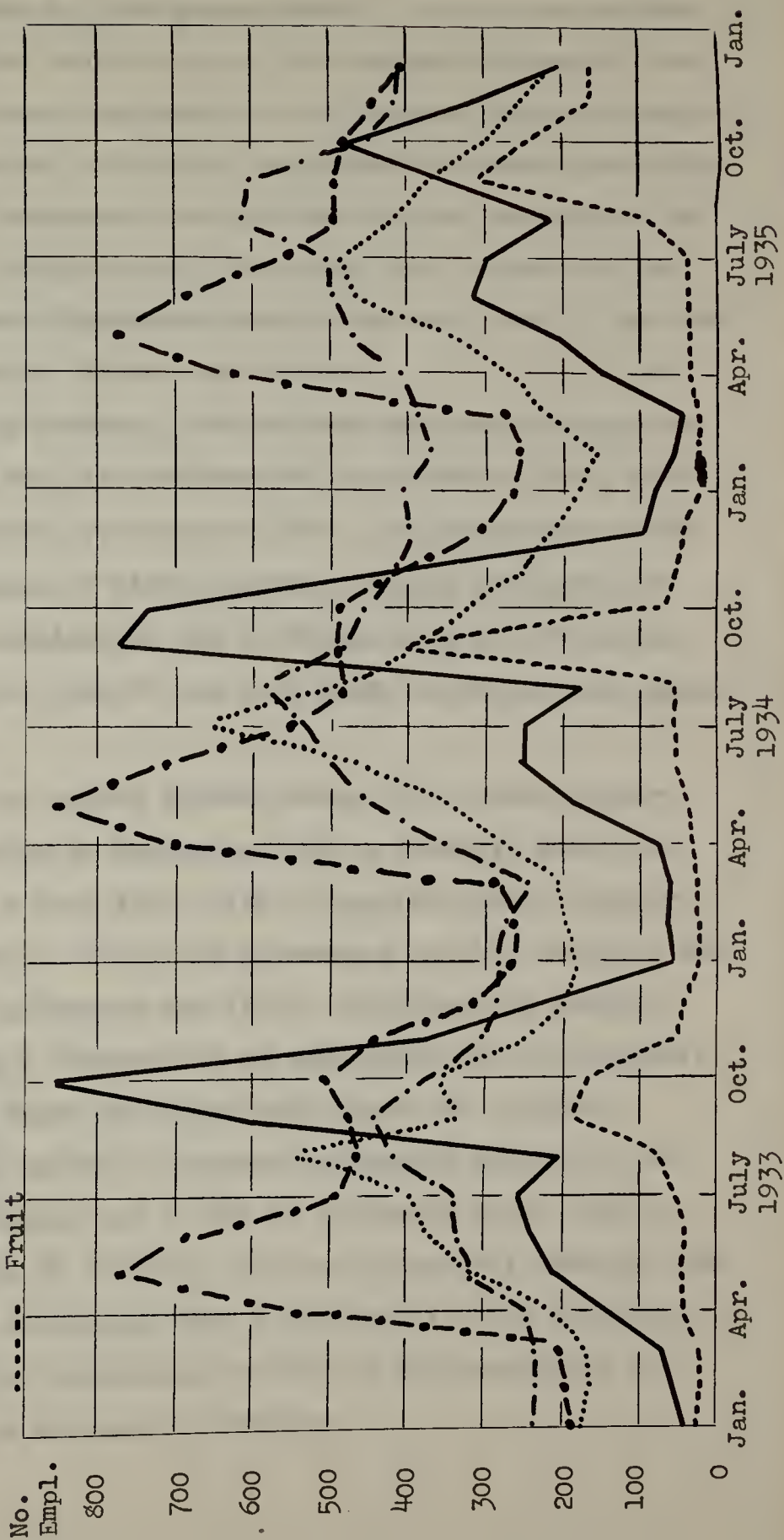
Table 31

Average, Minimum & Maximum Fluctuations of Employment
Five Industries Compared - 1933-35 Average

Industry	Ave. No. Empl. per month (3-yr. average)	Min. No. : Employed	Fluctu- : ations : from Av. per cent	Max.No.: Employed	Fluctu- : ations : from Av. per cent
Cranberry	252	57	-77	692	+174
Dairy	396	288	-27	539	+36
Farms & Mar- ket Gardens	309	173	-44	516	+67
Fruit	79	24	-71	302	+282
Nurseries	467	239	-49	802	+71

Chart 1
Numbers Employed per Industry
By Months, 1933-35
Massachusetts

-.-.- Nursery
 — Cranberry
 .-.- Dairy
 Market Garden
 Fruit



26-30, and in Chart 1. (See pages 63-68). It will be observed from the respective tables that in the cranberry industry, employment varied from a minimum of 43 in January 1933 to a maximum of 861 in October 1933, with employment per month averaging 252. Using the three-year average, the average employment per month being 252, the minimum 57 in March, the maximum 602 in October, employment fluctuated through the year from 77 per cent below the average to 174 per cent above.

For the dairy industry, the minimum employment figure was 231 in February 1933, the maximum 604 in September 1935, with an average employment per month of 396. Analyzing the monthly three-year averages, we find a maximum average employment of 539 in August, a minimum of 288 in March, with a fluctuation through the year of from 27 per cent below to 36 per cent above the average.

On general and market garden farms, the minimum employment over the entire 36 months was 161 in February 1933, the maximum was 667 in July 1934, with an average monthly employment of 309 workers. Using the three-year monthly average, the minimum average employment was 173 in February, the maximum 516 in July, with a fluctuation of employment for the industry from 44 per cent below to 67 per cent above the average.

In the fruit industry, minimum employment fell to 21 in January 1935, maximum rose to 419 in September 1934, with a monthly average of 79 workers. For the three-year average, the numbers employed fluctuated from a minimum of 34 in January to a maximum of 302 in September, or from 71 per cent below to 283 per cent above the monthly average.

In nurseries, employment ranged from 189 in January 1933 to 853 in May 1934, with a monthly average of 487 workers. For the three-year average, the numbers fluctuated from a minimum of 239 in February to a maximum of 802 in May, or from 49 per cent below the average to 71 per cent above. Fluctuations in monthly employed above and below the average for the several industries may be compared in Table 31, page 67.

In decrease in numbers employed below the industrial average, the cranberry industry ranks first, with a drop of 77 per cent. The fruit industry stands second, with a 71 per cent drop, nurseries rank third, with 48 per cent, farms and market gardens fourth, with 44 per cent drop; the dairy industry shows least diminution in employment throughout the year, its minimum number being only 37 per cent below the average monthly employment for that industry over the three years under consideration.

Turning to increase in employment above the average, the fruit industry ranks highest, with a rise of 282 per cent, the cranberry industry second, 174 per cent, nurseries, 71 per cent; farms and market gardens 67 per cent, and the dairy industry least, rising only 36 per cent above the average during the month of maximum average employment.

It will be seen from this analysis that employment on dairy farms is most stable of any of the five agricultural industries. Employment on farms and market gardens ranks second, on nurseries, third. Employment on cranberry and fruit farms is least stable throughout the year, both of them employing and discharging large numbers of seasonal help during the crop year.

Chart 1, on page 68, shows the variations in total employment for the five industries during the 36 months under observation. It will be observed that both in total monthly volume of employment and in fluctuation in employment throughout the year, the market garden industry stands in a fairly intermediate position, and represents neither the worst nor the best of employment conditions in the Massachusetts agricultural industry as a whole.

P. 3. Wages paid.

Statistics gathered by the Department of Labor include only Payroll Data,⁴³ not individual wage payments. Average weekly wages as used in this paragraph have been obtained by dividing the Total Payroll for an industry for the given month by the Number of Wage Earners Employed in that industry for the month. Because of the fluctuations in employment during harvest, when workers come and go with great irregularity and often do not complete a full week's work, the 'numbers employed' figure will not represent all those employed for the full time for which the pay roll was reported. This causes a discrepancy in the calculations of weekly average wage, as will be seen from the tables. During the peak of the season the average weekly wage is at its lowest, although in individual cases, the daily wage for those employed by the day is often higher than

43. For the purpose of the tabulation the payrolls covering a period greater than a week were reduced to their weekly equivalent. The numbers of persons on the payrolls does not include owners, partners, tenants, managers, or overseers.

the average daily wage for those employed by the month. However, for the purpose of this analysis, in which comparisons between the industries are the primary concern, this discrepancy will be of less serious nature than in a study of any one particular industry.

As will be seen from Table 32, (see p. 73) average weekly wages for all farms reporting, for the 36 months studied, were \$17.11. They fluctuated from a low of \$14.06 in September 1933 to a high of \$20.46 in February 1935. There was a slight upward trend throughout the 36 months, the average for 1933 being \$16.73, for 1934, \$17.20, and for 1935, \$17.43.

Weekly average wages for the five industries separately are shown in Tables 33-37, on the following pages.

From Table 38 (page 76), it is obvious that wages in employment on dairy farms rank highest among the agricultural industries studied, with employment in nurseries not far behind. Fruit farms, general farms and market gardens rank in the intermediate position, with wages on fruit farms slightly superior to those paid on general and market garden farms. Wages paid on cranberry farms fall far short of those paid in any other industry, having a 36 month average of \$10.97 weekly.

One more point must be mentioned and must, indeed, be given considerable attention, namely, that in the collection of this wage data no attention has been paid to any factor except cash wages paid. No allowance has been made in cases where any perquisites were given in addition to cash wages. It is, therefore, quite possible that the above comparison might be rendered quite erroneous, if it were found that in one in-

Table 32

Average Weekly Wages for All Farms Reporting*
By Months, 1933-35

Month	Average Weekly Wages Paid			1933-35 Average
	1933	1934	1935	
January	\$19.86	\$18.88	\$19.37	\$19.37
February	18.95	18.72	20.46	19.37
March	17.68	18.81	20.06	18.85
April	16.68	17.67	17.49	17.28
May	16.68	17.21	17.75	17.21
June	16.34	16.65	16.54	16.51
July	15.84	15.56	17.10	15.83
August	15.65	16.45	16.24	16.11
September	14.06	14.08	14.86	14.33
October	15.30	15.61	15.58	15.50
November	16.73	17.47	16.63	16.94
December	16.99	19.31	17.95	18.08
Average	\$16.73	\$17.20	\$17.42	\$17.11

*No account was taken in these reports as to whether or not board was included; figures represent merely cash wages paid as obtained by dividing total payroll by actual number reported as employed.

Table 33

Average Weekly Wages Paid to Workers in Cranberry Industry By Months, 1933-35

Month	Average Weekly Wages Paid			
	1933	1934	1935	1933-35 Average
January	\$15.21	\$12.49	\$10.50	\$12.73
February	12.06	11.12	15.93	13.04
March	7.23	10.75	15.81	11.26
April	9.17	13.17	10.61	10.98
May	10.43	11.33	12.32	11.36
June	9.82	10.69	9.74	10.08
July	9.53	11.44	9.18	10.05
August	9.22	11.68	11.81	10.90
September	7.04	8.94	10.47	8.82
October	12.04	10.85	8.16	10.35
November	12.72	12.61	9.62	11.65
December	9.32	12.50	9.40	10.41
Average	\$10.31	\$11.47	\$11.13	\$10.97

Table 34

Average Weekly Wages Paid to Workers on Dairy Farms By Months, 1933-35

Month	Average Weekly Wages Paid			
	1933	1934	1935	1933-35 Average
January	\$20.38	\$19.07	\$20.38	\$19.94
February	20.41	19.29	21.69	20.46
March	20.22	19.03	21.36	20.20
April	19.71	20.60	20.71	20.34
May	19.08	19.21	19.70	19.33
June	19.63	19.84	20.37	19.94
July	19.97	17.41	20.50	19.29
August	20.36	18.12	18.10	18.86
September	20.77	19.67	17.62	19.35
October	20.13	19.66	21.04	20.27
November	20.18	20.80	21.20	20.72
December	19.52	20.80	21.10	20.47
Average	\$20.03	\$19.47	\$20.31	\$19.93

Table 35

Average Weekly Wages Paid on Farms and Market
Gardens by Months, 1933-35

Month	Average Weekly Wages Paid			
	1933	1934	1935	1933-35 Average
January	\$17.88	\$17.91	\$18.37	\$18.05
February	17.66	17.23	17.99	17.62
March	16.99	17.25	17.63	17.29
April	16.31	16.14	15.47	15.97
May	15.34	15.38	15.38	15.37
June	14.77	13.90	13.45	14.04
July	13.92	13.52	13.22	13.55
August	13.09	14.55	13.76	13.80
September	14.20	15.02	13.57	14.26
October	15.27	16.13	15.03	15.48
November	16.29	17.45	15.91	16.55
December	17.48	18.30	16.86	17.54
Average	\$15.77	\$16.06	\$15.55	\$15.79

Table 36

Average Weekly Wages Paid on Fruit Farms By
Months, 1933-35

Month	Average Weekly Wages Paid			
	1933	1934	1935	1933-35 Average
January	\$16.28	\$19.43	\$21.57	\$19.09
February	16.11	18.83	21.56	18.83
March	15.00	17.62	20.12	17.58
April	14.02	19.29	19.31	17.54
May	14.78	19.91	19.66	18.11
June	15.34	16.06	17.80	16.40
July	13.55	15.21	23.00	17.25
August	12.26	16.22	14.05	14.17
September	10.09	11.85	9.94	10.63
October	12.64	18.13	14.32	15.03
November	14.07	16.30	15.70	15.36
December	14.49	16.31	15.55	15.78
Average	\$14.05	\$17.09	\$18.89	\$16.68

Table 37

Average Weekly Wages Paid to Employees in
Nurseries by Months, 1933-35

Month	Average Weekly Wages Paid			
	1933	1934	1935	1933-35 Average
January	\$22.66	\$20.67	\$21.02	\$21.45
February	20.49	21.18	21.07	20.91
March	19.26	21.60	20.81	20.55
April	17.66	17.35	17.68	17.56
May	18.10	18.04	18.91	18.35
June	17.96	18.28	17.46	17.90
July	18.02	18.11	18.13	18.08
August	17.81	18.09	18.29	18.06
September	18.01	17.83	18.51	18.12
October	18.19	18.34	18.91	18.48
November	18.33	18.78	18.57	18.56
December	19.22	20.60	20.41	20.31
Average	\$18.87	\$19.07	\$19.15	\$19.03

Table 38

Average Weekly Wages of Five Industries Com-
pared by Years, 1933-35

Industry	Average Weekly Wages Paid			
	1933	1934	1935	1933-35 Average
Cranberry	\$10.31	\$11.47	\$11.13	\$10.97
Dairy Farms	20.03	19.47	20.31	19.93
Farms & Mar- ket Gardens	15.77	16.06	15.55	15.79
Fruit	14.05	17.09	18.89	16.68
Nurseries	18.87	19.07	19.15	19.03
Average for all Industries	\$16.73	\$17.20	\$17.42	\$17.11

dustry it was customary to hire none but permanent workers who lived on the farm and who received board and room in addition to the cash wage analyzed above.

Were it possible to secure such data as to segregate wages with and without board, or to make some definite adjustment of the wage scale in cases where board was furnished, the above figures would not have been utilized. However, it has been expressly said, by the Department of Labor and Industries, that in collection of this data on Employment and Payrolls, it has thus far been impossible to secure cooperation from the employers in reporting more than Cash Payrolls and Numbers Employed. Until such time as more detailed data can be secured from the industries, the above must suffice, with the hope that there may be sufficient similarity in error in all reports to make comparison somewhat worth while.

It may be added here, moreover, that to those who have a knowledge of the conditions existing in these industries, the figures obtained in the above analysis seem to give a fairly accurate picture of the comparative conditions. In fact, it would seem, that rather than diminishing the differences of wages between the various industries, if board were included, it would probably increase the differences in wages and labor status, or general welfare of the worker. It is known that particularly on dairy farms are the workers accustomed to contract to live on the farm and receive board and living quarters, and yet the actual cash paid in wages to workers on dairy farms is the highest paid of any of the five industries.

It is also a well known fact, that the preponderance of the

hired labor on cranberry farms is day labor, workers who are not furnished so much as the mid-day lunch, and yet here we find the lowest cash wages paid. It would seem that the above analysis therefore does have merit, in giving an idea of comparative labor status in the various agricultural industries.

Chart 3, on the following page, reveals the wide variations in weekly wages paid in the five industries, during the course of the entire 36 months. No attempt will be made to explain its many surprising features for they merit a study devoted to them alone. We wish only to point out that the wages paid in market gardening lie intermediate between the highest and the lowest wage levels, so that wage conditions found here might be taken to represent a rough average for agriculture as a whole throughout the state.

P. 4. Labor status in market gardening compared with average for farm labor in the state.

The relationship between numbers employed and average monthly wages paid in the market garden industry is shown in Table 39 (p. 80). The period of maximum employment coincides with the period of minimum wages paid. This relationship exists for all agricultural industries in the state combined.

The average number employed per farm on market gardens very closely approximates the state average per farm, although during the peak month, it rises slightly higher. The figures also show that while the peak of employment occurs in the combined groups in September or October, for market gardening the peak appears two months earlier.

Chart 2
Wages Paid in Specific Agricultural Industries
Massachusetts
1933-1935

Wages Paid Dollars

-.-.- Nursery
 ——— Cranberry
 .-.-.- Dairy
 Market Garden
 - - - - Fruit

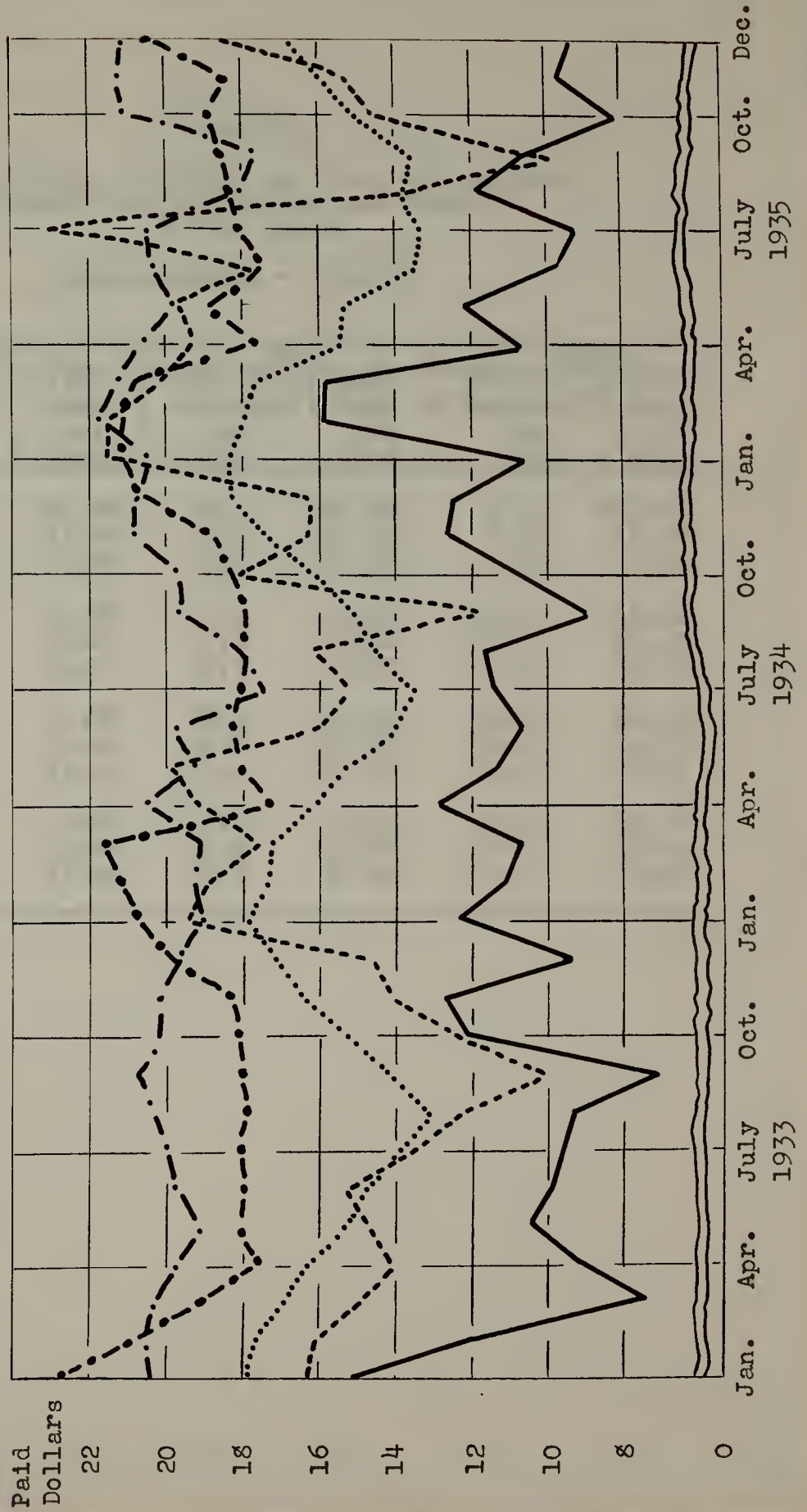


Table 39

Average Number Employed per Farm and Average
Wages Paid on General and Market
Garden Farms

Massachusetts - 1933-35

	1933			1934			1935	
Month:	Ave. No. : Employed	Ave. : Wage	:	Ave. No. : Employed	Ave. : Wage	:	Ave. No. : Employed	Ave. : Wage
	per Farm	per Week	:	per Farm	per Week	:	per Farm	per Week
Jan.	9.9	\$17.88		8.5	\$17.91		8.6	\$18.37
Feb.	9.5	17.66		9.1	17.23		7.9	17.99
Mar.	9.7	16.99		10.0	17.25		9.8	17.63
Apr.	12.4	16.31		12.5	16.14		12.1	15.47
May	15.2	15.34		16.4	15.38		15.1	15.38
June	18.5	14.77		20.7	13.90		20.9	13.45
July	20.8	13.92		20.3	13.52		25.6	13.22
Aug.	26.1	13.09		22.2	14.55		20.5	13.76
Sept.	17.5	14.20		17.8	15.02		19.6	13.57
Oct.	17.6	15.27		14.7	16.13		15.0	15.03
Nov.	13.0	16.29		11.9	17.45		11.6	15.91
Dec.	9.5	17.48		10.0	18.30		10.0	16.86

Wages paid on market garden farms are lower than the state average during the period of falling wages, but during the months when wages are rising, similar rates are paid, although the maximum on market gardens does not reach the maximum for all industries. As seen from the preceding chapter, the higher wages paid on dairy farms accounts for part of this difference. As explained in the previous pages, this is due in part to the inclusion of great numbers of day workers, whose low rate of pay depresses the average for all workers. This would not have so pronounced an effect on the general wage level were the market price of board included in the wage report in all cases where current wages included board.

VII

Labor Status on Market Garden Farms
Middlesex County, 1935

During the summer of 1935 a survey was made of employment and wages on market garden farms in Middlesex County. As shown in the preceding chapter, this county is outstanding in its market garden production and was taken as representative of this industry in the state. A representative sample of market garden farms was chosen, ranging in size from 10 to 100 acres, and included only those on which more than half of the acreage was devoted to commercial vegetable production.

The acreage distribution of the farms comprising the sample is shown in Table 40. This closely corresponds to the acreage distribution of all market garden farms in the county.⁴⁴

Table 40

Acreage Distribution of Farms in Sample

Acreage per farm : Number of Farms

Less than 10	1
10-19	9
20-29	5
30-39	7
40-75	4
75-100	2
Over 100	1
Total	39

The dot map on page 83 shows the location of farms stud-

44. From unpublished data collected for preliminary study conducted by the Massachusetts Department of Agriculture for the Boston Regional Produce Market. 1935.

MASSACHUSETTS AGRIC. COLLEGE
U.S. DEPARTMENT OF AGRICULTURE
MIDDLESEX COUNTY BUREAU OF AGRIC.
AND HOME ECONOMICS
CO-OPERATING

MIDDLESEX COUNTY



Distribution of Farms Surveyed

Each dot represents one farm

ied. The concentration of these farms in the town areas indicated is similar to that of all market garden farms in the county.⁴⁵

Wage and employment statistics were obtained for all categories of outdoor labor, both male and female. These comprise both permanent and seasonal labor, on monthly or weekly contracts, labor hired by the day and by the 'piece.' Useful data were obtained from 39 employers, partly by questionnaire and partly by personal interview, and covered a total of 376 employees. Of these, 72 were year-round employees and 304, seasonal.

P. 1. Total working force.

On all of these farms, members of the farm family comprised part of the working force. On all farms, also, seasonal help was employed. But on 10 farms, no year-round workers over and above the farm family were employed.

The average number of paid workers per farm per month for the 39 farms surveyed is 13.0. It is interesting to compare this with the average number of workers per farm per month as reported by the Department of Labor and Industries. Here we find an average of 15.2 workers per farm per month, for the period 1933-1935. (See Table 1, Appendix A). This bears out the belief previously expressed (see footnote 41, p. 60) that farms reporting regularly to the Department tend to be among the larger or more intensified farms, or those belonging to the more efficient farm owners, rather than to be representative of all farms in the industry.

45. Ibid.

An analysis of number of workers hired per farm by types of labor appears in Table 41. It will be observed that the usual number of family members working on the farm is 2, one being next in frequency. On those farms reporting permanent

Table 41

Frequency Distribution of Workers on Farms
by Employment Status

Number of Workers Reported	Farms Reporting			
	Members of		Hired Labor	
	Farm	Family	Permanent	Seasonal
0	--		10	--
1	10		8	1
2	11		4	6
3	2		3	1
4	4		2	3
5-9	2		1	9
10-19	--		--	4
20-29	--		--	3
30-39	--		1	1
40-49	--		--	1
50	--		--	1
All Classes	29		29	29

Hired labor, one worker was the most frequent number employed, while for seasonal labor, the report occurring most frequently indicated the employment of 5 to 9 workers. This differs slightly from the arithmetical average number of workers per farm per type, which is 2.5 permanent and 10.3 seasonal.

All permanent workers were men, but of the 304 seasonal workers, 179 were men, 89 were boys and 36, women.

P. 3. Wages paid.

Permanent labor

Of the 19 employers reporting the use of permanent hired labor, 4 paid only by the month, 6 only by the week, 6 only by

the day, 1 only by the hour, while the remaining 2 paid part of their workers by the month and part by the day.

Monthly wages with board averaged \$30.00, while the single employer who paid by the month but did not furnish board reported the wage at the same rate, i.e., \$30.00. Weekly wages, all without board, ranged from \$8 to \$24, with the average wage standing at \$14.58. Two employers reported daily wages with board, the average rate being \$1.87. Daily wages which did not include board averaged \$3.17. One employer paid his permanent worker by the hour at the rate of 40 cents, which did not include board.

On the basis of the length of working day and working week, as indicated on the individual records, all wages have been reduced to their monthly equivalent (see Table 43, below). The average monthly wage-rate for the entire group of permanent workers calculated in this way was \$36.75 with board and \$61.51 without board.

Table 43

Estimated Monthly Average Wage Rates*

Type of Worker	With Board	Without Board
Permanent	\$36.75	\$61.51
Seasonal	24.00	53.93

*Piece rates have not been included, since length of working day was not indicated in these reports. They occurred in only 3 reports, on one of which a day-rate was also indicated.

Seasonal labor

Wages for seasonal labor were reported in all categories; monthly wages with board, paid on 5 farms, averaged \$24.00; without board, occurring on only 1 farm, \$23.50. Weekly wages, paid on 2 farms, in both cases without board, averaged \$9.00. On 19 farms, daily wage rates were reported (all without board), the average for the entire group being \$3.03.

In addition, 3 employers reported payment by the hour, the average rate being 32 cents; in one case payment was at the rate of 2 cents per quart and 10 cents per bushel for harvesting. Two employers failed to state the rate of payment.⁴⁶

In no case was a difference in wage rate made as between men and women workers, but on the whole the rate paid to boys was slightly less.

Comparison of wage rates for permanent and seasonal workers will be found in Table 42, on the preceding page. It must not be forgotten that these in no way represent actual earnings of any worker, since the length of tenure of these workers is not taken into account at this point.

The relationship shown in Table 43 does not agree with the belief generally held that seasonal workers receive a higher rate of pay in recognition of the shortness of the term of their employment. It does bear out, however, the findings reported in the previous chapter, based on the Massachusetts Department of Labor and Industries' reports, which show that the average wage paid to all workers during the crop season

46. As mentioned earlier, several employers indicated more than one type of wage rate.

is lower than the average wage paid during the out-of-season months.

P. 3. Perquisites.

It is a common practice in many parts of the United States for farm employers to supplement the laborer's wages with additional perquisites, money value of which is not included when wages are reported. On the farms surveyed, it was found that of the 72 permanent employees, 51 received no perquisites whatever. (See Table 43). Four of the permanent employees

Table 43

Distribution of Perquisites Among Hired Farm Laborers

Perquisites Received	: Number of Workers Receiving	
	: Permanent	: Seasonal
Board, room & laundry	4	26
Board, room, laundry & garden space	1	--
Board, room, laundry, garden space and wood and milk*	3	--
Board, room, laundry and overalls	1	--
Board and room	1	--
Lunches	--	30
Lunches & transportation	--	5
Transportation	--	69
Garden space*	7	--
Vegetables*	3	1
Fuel*	1	--
None	51	183
- - - - -	- - - - -	- - - - -
All types	72	304

*Amount not designated.

received board, room and laundry service, 1 received only board and room. One worker was given garden space for his own use, in addition to board, room and laundry; 3 were given all of these, with wood and milk in addition (amount not spec-

fied. To another, overalls were allowed in addition to board, room and laundry; one was furnished with fuel (wood?); 7 were allowed garden space with no other perquisites, and 3 received "some vegetables."

Thus we find 70.8 per cent of the permanent employees receiving no perquisites whatever, although in a farm labor study made by J. C. Folsom in 1930,⁴⁷ it was found that for the United States, 97.5 per cent of "non-casual" hired farm laborers received some type of perquisite or privilege. This difference, perhaps due to the greater urbanization in Massachusetts than throughout the United States as a whole, and the consequent prevalence of workers coming from nearby towns, must not be forgotten when wages paid to farm labor in Massachusetts are compared with the average farm wage rate for the entire country.

Seasonal workers fare less well in the matter of wage increments. Of the 304 included here, 133, or 60.2 per cent received no addition of any kind to the cash wage. Transportation to and from their work was furnished to 69 seasonal workers. This, however, might be considered as much of a convenience to the employer as to the employee, and of almost negligible money value, inasmuch as in the cases where cash was given for carfare or for the worker's use of his own car, 10 cents a day was the amount specified. Board, room and laundry were furnished to 26 workers, the majority of these being men whose employment lasted for from 6 to 10 months. To 30 laborers, lunches were given, 5 received both lunches and transportation

47. Folsom, Josiah C. Perquisites and Wages of Hired Farm Laborers. Technical Bulletin #313. U.S.D.A. 1931.

and I was given vegetables for his own use.

To estimate with any degree of accuracy the value of these varying wage increments would be a task beyond the scope of the present study. In the study by Dr. Folsom, mentioned above, perquisites paid to non-casual Massachusetts farm laborers, based on 1925 values, were estimated to add an average of \$34.75 per month to the wages where the laborer was boarded,⁴⁸ and \$12.67 in cases where board was not furnished. This amounted to about two-fifths of the farm laborer's cash wage. Suffice it to say that the farm laborer's earnings may be substantially increased if perquisites are allowed.

P. 4. Length of work week.

In a previous chapter (see p. 31) it was found that the average work-week for agricultural laborers in the United States during the period 1861-1899 was 66 hours; in 1920, W. I. King (see p. 32) found that the average work week for all farm labor throughout the year was 52 hours, for the United States, and 57½ for New England. Moreover, Dr. King estimated that for male farm labor in New England working by the month, the average week consisted of 63.7 hours and for those working by the day, 51.2 hours.

Comparing with the figures obtained from Dr. King's study the data obtained through the Middlesex County survey (see Table 44, p. 91) we find the average week for all hired farm labor to consist of 55.1 hours, with a 57.2 hour week for permanent workers and a 53.1 hour week for workers hired sea-

48. As used here, the term 'board' includes room and laundry.

sonally. Making the same distinction as Dr. King in his study in order to obtain comparable figures, we find that for workers contracting by the month a 64.3 hour week and for workers contracting by the day a 55.0 hour week are required.⁴⁹

Table 44

Comparison of Length of Work-Week for Various Years
and Regions

Survey	:Year:	:Region:	:All Farm:	Length of Work Week		:Permanent:	:Sea-
				: Month	: Day		
U.S.D.A. 1846-89	U.S.		66 hrs.				
W.I.King 1920	U.S.		52				
	N.Eng.		57.4	63.7hrs.	51.2hrs.		
Present Survey	1935	Middle- sex Co.	55.1	64.3*	55.0	57.3*	53.1

*These two categories are not mutually inclusive, as some labor hiring by the month was seasonal, and some permanent workers were hired by the week or the day. 'Piece' wage workers were excluded from the month and day calculations, but not from the permanent and seasonal.

It would seem from the above data that the laborer hiring by the month is considerably more tied to his job than the laborer contracting by the day. It should be re-stated, however, that of the 19 employers hiring permanent help, only 4 hired them by monthly contract, and of the 29 hiring seasonal help, only 6 hired these workers by monthly contract.⁵⁰

49. In this method of calculating average length of work-week, note that no account is taken of reports for workers contracting by the week or by the piece.

50. Where records showed two methods of contract by one employer for one category of labor, no distribution of numbers of workers between the two methods was indicated, hence, total number of workers hiring by each type of contract can not be stated.

It is interesting to compare the data on length of work-week obtained for Middlesex County market garden labor with the average number of hours worked per week on Highway Construction, as reported by the Massachusetts Department of Labor and Industries. In 1932, the average number of hours worked per week was 44.1; in 1933, 39.9 ; in 1934, 33.9 ; and in 1935, 33.0; This data by months for the period 1932-1935 appears in Table 45.

Table 45

Average Number of Hours Worked per Week on Highway Construction
Massachusetts*

Month	1932	1933	1934	1935
January	44.5	46.4	36.7	29.7
February	45.7	41.5	36.8	39.1
March	45.8	42.2	37.0	30.2
April	43.9	37.6	34.3	36.9
May	46.5	40.5	30.0	32.8
June	44.3	41.2	32.7	32.2
July	47.0	42.8	36.4	29.8
August	44.4	40.0	35.0	39.8
September	45.7	39.6	35.7	42.5
October	44.8	42.5	30.1	36.1
November	39.0	33.4	31.1	32.6
December	39.0	30.2	30.5	34.2
Average	44.1	39.9	33.9	33.0

*Mass. Dept. of Labor & Industries

P. 5. Supply of farm labor.

The supply of farm labor for Middlesex County, affected as it is by the presence of industrial communities within and adjacent to it, reflects somewhat the activity of industry in those communities.

According to the figures of the 1935 Agricultural Census recently released, there were 19,247 persons employed as hired

farm laborers on April 1, 1935, in the entire state of Massachusetts, and 4,171 in Middlesex County. In addition, farm operators who reported working for pay in agriculture not connected with their own farms numbered 850 for the state and 100 for Middlesex County.

The supply of farm labor in Massachusetts was reported on April 1, 1935, as 110 per cent of normal as compared with 105 on January 1. The ratio of supply to demand was rated at 141 on April 1; in other words there was 41 per cent more labor available for farm work than could expect to find work. However, on July 1, farm labor supply was reported as only 98 per cent of normal. This was the first time that the supply of workers available for hire was reported below normal since June 1, 30.⁵¹ This decrease in labor supply was apparently occasioned by the pick-up in industrial activity which caused a drop in supply of workers, and by a sharp increase in demand for agricultural help stimulated by the anticipated rise in farm prices. It is interesting here to note that the employers interviewed mentioned that it was the first summer for many years that workers have not come to the door asking for work.

P. 6. Alternative employment.

The Massachusetts Department of Labor and Industries re-
⁵²
 ports employment and payroll data for 35 major industries in the state. The index of employment for all industries so reported as given in Table 20, p. 47, stood at 73.3 per cent of

51. Crops and Markets, U.S.D.A. July 1935.

52. For list of Massachusetts industries, see Appendix H.B.

normal in March, 1935, dropped to 67.4 per cent in June and steadily rose until it reached 73.0 per cent in December.

Reports on industrial employment in 9 municipalities in Middlesex County⁵³ indicated a very slight upward trend during July and August, 1935. Average weekly wages in these cities in August ranged from \$18.33 in Malden to \$25.44 in Everett.

The above figures apply to all wage-workers, skilled and unskilled, clerical and manual. It can be assumed that in most of these industries, some employment for unskilled workers is available, at a proportionately lower-than-average wage.

Turning to definitely unskilled occupations, we find reports⁵⁴ on employment and payrolls for Municipal Manual Employment and for Trucking and Handling, and average weekly wages for employment on highway construction. These figures for 1935 appear in Table 46, and will bear careful scrutiny and

Table 46

Employment and Earnings of Unskilled Workers
in Certain Categories*
Massachusetts, 1935

Month:	: Municipal Empl. :		: Trucking & Hand-:		: Highway Construc-
			: ling :		: tion
	: Empl. :	: Av.Wk.Wage:	: Empl.:	: Av.Wk.Wage:	: Av. Weekly Wage
Jan.	17,953	\$25.42	3,687	\$26.14	\$19.77
Feb.	17,525	25.52	4,128	25.03	20.06
Mar.	15,657	26.69	3,856	24.48	19.61
Apr.	16,554	25.97	3,618	24.97	19.34
May	17,413	26.39	3,649	25.77	21.64
June	17,581	26.32	3,642	26.42	22.26
July	18,185	26.21	3,386	26.35	20.62
Aug.	18,285	26.68	3,429	26.50	25.27
Sept.	16,913	26.53	3,593	26.22	31.52
Oct.	17,041	26.58	3,692	26.20	23.23
Nov.	16,313	26.22	3,647	25.84	22.35
Dec.	14,758	23.06	3,913	26.87	23.59

*Mass. Dept. of Labor & Industries.

53. Cambridge, Everett, Framingham, Lowell, Malden, Newton, Somerville, Waltham, Watertown, as reported by the Mass. Dept. of Labor and Industries.

54. Same source.

comparison with the data previously given for farm labor.

On highway construction, weekly wages varied from a low of \$18.34 per week in April to a high of \$31.53 in September. Workers engaged in trucking and handling received weekly wages ranging from \$24.48 in March to \$36.87 in December, while unskilled workers in municipal employment earned from \$25.13 per week in January to \$28.01 in December.

P. 7. Length of Tenure.

No true picture can be obtained of labor status from a consideration of wages alone. Length of employment of seasonal workers is a vital part of the picture, which is only another way of approaching the problem of seasonal unemployment of farm labor.

From 21 of the 29 employers in Middlesex County who were questioned on this point, data on number of seasonal employees by months were obtained, and Chart 3 portrays graphically the answers given. Although 182 workers had employment in July, only 140 of these continued to work through August and September, only 112 had had jobs in June, while in November but 31 were still employed. Lack of security for the seasonal farm worker is too obvious a situation to need amplification.

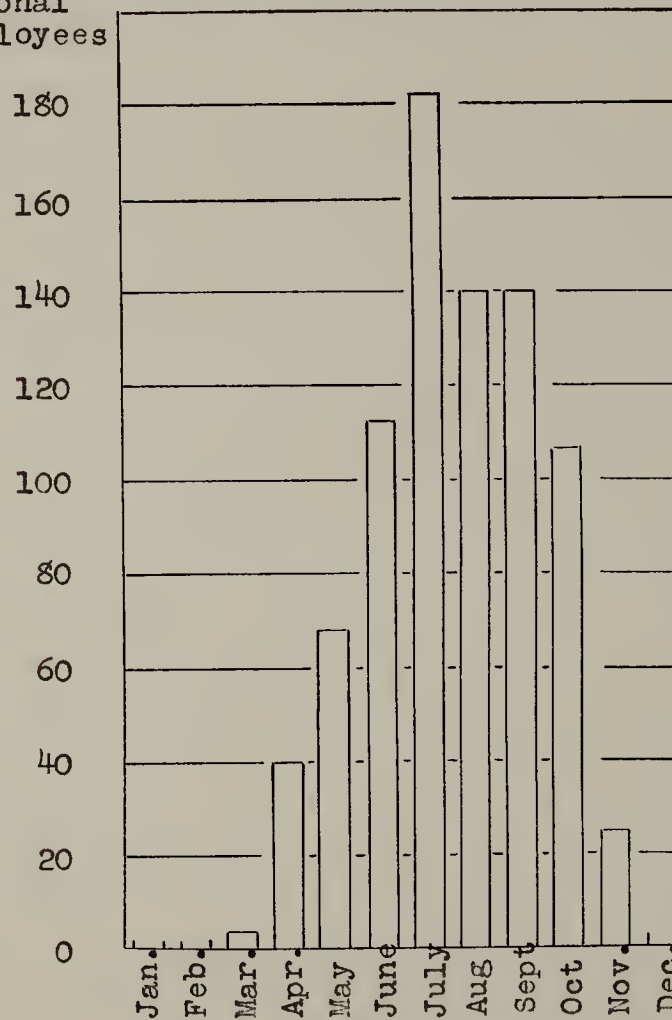
P. 8. Mobility of employment.

One further factor of considerable importance in any study of farm labor problems in Middlesex County is that regarding the worker's mobility. Theoretically, seasonal farm labor constitutes a mobile group, which is readily available

Chart 3

Seasonality of Non-Permanent Employment
on 21 Market Garden Farms, Massachusetts
1935

No. sea-
sonal
employees



to turn its hand to farm work where it is needed as the season advances. However, 23 of the 23 employers questioned indicated that their entire labor supply was recruited from permanent residents of nearby villages or from the families living on nearby farms. This seems to indicate that the Middlesex County market gardener serves to give employment to his land-tied neighbor, who has little choice in seeking employment.

Part IV

Theory of Farm Wages

"The laborer is worthy of his hire."

--- The Bible

VIII

Factors Affecting Wages

It is not within the scope of this paper to analyze the various theories which have been proposed for explaining the wage level. Modern economists fairly well agree that wages are set somewhere between a lower limit determined by the cost of subsistence and an upper limit determined by the marginal productivity of labor, with the actual level determined by the "higgling of the market."

In the preceding chapters we have endeavored, in so far as material was available, to present farm wages at given periods and additional information which will help us to see the factors affecting their level at that time.

As the data shows, the wages of farm labor at all but transitory periods have been very close to the subsistence level. If wages are compared to the figures given for the cost of farm living at any of the periods studied, it will be seen that a minimum subsistence only could be provided for the worker. In fact, as is frequently reiterated today, there is some doubt as to whether the wages discussed here would provide a standard of health, not to mention a standard of decency!

What of the upper limit set by the worker's productivity? No material presented in the previous chapters will lend us information on this point. In industrial studies, the relationship between wages and the value added to the product by

manufacture tends to show that in some measure wages depend upon this factor, that in industries where the added value is high, wages are correspondingly high. In a study of agricultural wages, the problem is more complex, since the costs of production are not easily separated one from another. In this connection it has been found enlightening to analyze the ratio of expenditure for labor to total expenditures, to total receipts and to net income on 30 market garden farms in Middlesex County for the years 1925, 1932, 1933, 1934 and 1935. Chart 4 (p.100) shows the relationships found to exist between these factors. Wages paid to hired labor on these farms have continued to bear a definite ratio to net income obtained from the farm business, for all years except 1934, when the wage index remained irregularly high. It would seem from this brief comparison that there is a distinct relationship between productivity and wages, and that perhaps in 1934 when productivity fell below a subsistence level, wages were held above the productivity line. Inasmuch as all the farm operators in this group were paying income taxes, the figures may be considered representative of the successful farm.

Although the ratio remained fairly constant, could the farm-owner have paid his worker relatively more? An examination of factors entering into the farmer's margin of profit from 1910 to 1934, shown in Table 48, page 101, reveals the fact that while at times the farm operator has been squeezed between low farm prices and high costs, certainly at other times, it would seem that the worker has suffered more than his share of the burden.

Chart 4

Comparison of Index of Farm Wages (Mass.) and Ratio of Average Net Farm Income to Labor Costs, and Ratio of Labor Costs to Total Receipts and to Total Expenses on 30 Market Garden Farms in Middlesex County
(Wages Index 1925=100)

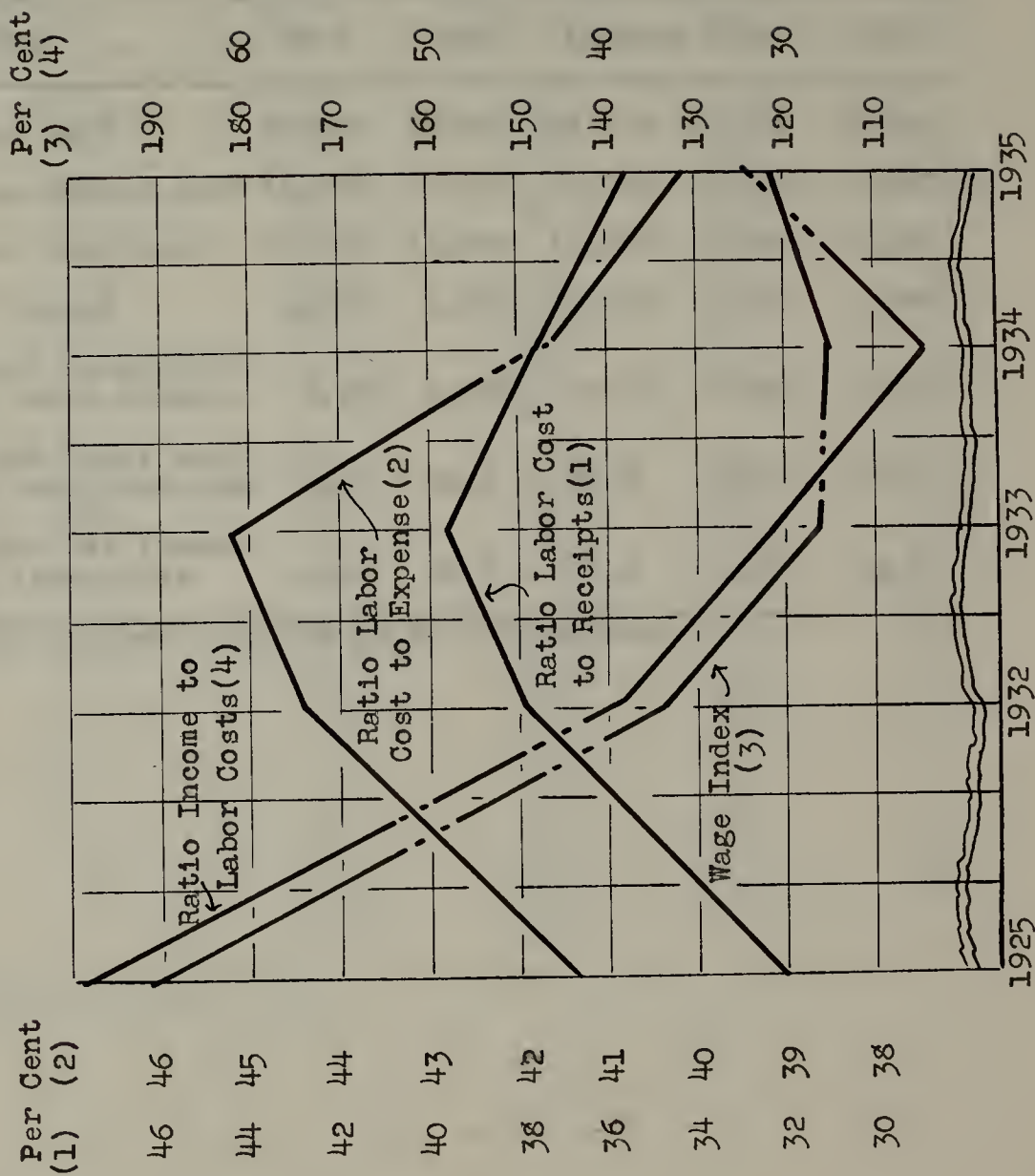


Table 47

Average Labor Costs, Total Expenditures
and Total Receipts on 31 Market Garden Farms
in Middlesex County*

Item	1925	1932	1931	1934	1935
Labor Cost	\$5,682	\$5,816	\$4,564	\$4,729	\$4,411
Total Expenditure	13,785	13,057	10,096	11,363	11,003
Total Receipts	17,748	15,288	11,536	12,534	12,343
Net Income	3,963	2,331	1,440	1,171	1,340
Ratio: Labor cost to total expend.	41.3%	44.5%	45.2%	41.6%	40.1%
Ratio: Labor cost to total receipts	32.0	38.0	39.6	37.7	35.7
Ratio: Net Income to labor cost	69.0	38.0	31.0	24.0	34.0

*From business records of 31 farm owners.

Table 48

Index Numbers of Factors Entering into the Farmer's
Margin of Profit
(1910-14=100)

Date:	Prices Rec'd for Farm Products - Mass.*	Prices Paid by Farmers for Commodities Used in Living : U.S.	Production : U. S.	Farm : Labor : Mass. :	Farm Real Es- tate Taxes per Acre Mass.
1910	97	98	98	94	----
1911	94	100	103	98	----
1912	99	101	98	101	----
1913	106	100	102	105	\$0.88
1914	104	102	99	103	.95
1915	100	107	104	104	.98
1916	109	124	124	123	1.02
1917	147	147	151	156	1.02
1918	184	177	174	177	1.10
1919	201	210	192	185	1.23
1920	215	222	174	226	1.55
1921	163	161	141	169	1.66
1922	143	156	139	169	1.78
1923	152	160	141	206	1.81
1924	138	159	143	199	1.87
1925	149	164	147	194	2.00
1926	154	162	146	217	2.14
1927	152	159	145	208	2.20
1928	154	160	148	204	2.16
1929	156	158	147	212	2.16
1930	139	148	140	203	2.12
1931	107	126	122	174	2.15
1932	90	108	107	134	2.16
1933	84	109	108	116	2.16
1934		122	125		

*Aug. 1909-July, 1914 = 100

Throughout the summer of 1935 (figures not shown in Table) farm wages continued to rise, but the advance did not keep pace with the rise in prices received by farmers. As reported by the United States Department of Agriculture,⁵⁵ the index of prices received by farmers stood 3 points higher on July 15 than the index of wages paid on July 1, while by October 1, this differential had widened to 5 points. A year earlier, this differential had amounted to 9 points in favor of prices received.

As for the worker's bargaining power, in Middlesex County it would seem that this arises rather from his opportunities for alternative employment than from any united action. No evidence whatever was found among the laborers interviewed as to interest in or knowledge of labor unions for farm workers. No real evidence of class antagonism was found, although there was in existence a sullen resentment of conditions differing from the apathy apparent a few years ago.

The effect of alternative employment on wages of farm labor in Middlesex County cannot be very accurately determined, since we have no real measure of the mobility of this labor, and the true "alternativeness" of the employments studied. It would seem that at no time have wages in farming been comparable to those in other unskilled industries, in spite of the fact that, according to the present survey, those wages do not include perquisites of any great value which would enhance the job in the eyes of the worker.

55. See Crops & Markets, Oct. 1935. p. 410-11.

As the Department of Commerce says:⁵⁶ "New England agriculture shows unmistakable marks of competition for labor, arising from the inducements offered by near-by factories. The constant drain of the farm population to urban centers has made the provision of man power for the farms an acute problem. New England farmers find it difficult to compete with the factories, both in their scale of wages and in hours of labor."

Yet at least as observed in Middlesex County, opportunities for employment for the farm worker were meager. The workers interviewed were tied to their communities. No longer is there even an agricultural ladder for him to climb. In fact, it would seem that in some cases the farmer himself is climbing down that ladder.⁵⁷

It may be that for a certain type of worker agricultural employment will always be preferred to any other. There are other factors besides wages and hours to be considered, and alternative employments even at higher wages will continue to fail to lure these persons from farm work; insofar as this is true, farm wages will remain low and working hours long.

It appears from this brief analysis that at present the continued outlook for market garden labor in Massachusetts is near-subsistence wage, stimulated somewhat above subsistence by an increase in industrial demand for labor, and by an upturn in farm prices and consequent increase in farm labor productivity.

56. Industrial Structure of New England. Dept. of Commerce. 1930.

57. See page 23: "In addition, farm operators who reported working for pay in agriculture not connected with," etc.

In turn, the cost of subsistence will rise also; if it follows its customary trend, it will rise higher and faster than the laborer's wage.

IX

Summary and Conclusions

The results of the present study on the status of the Massachusetts market garden laborer may be summarized as follows:

1. Length of working week has always been longer for the market garden laborer in Massachusetts than for unskilled labor in industry, and has also exceeded that for the average agricultural laborer in other parts of the country.

2. Cash wages paid to Massachusetts market garden labor on the whole have been higher than those received by the average farm laborer for the United States, but real wages have been proportionately the same, and today are lower than industrial wages for labor of the same type.

3. Irregularity of employment added to the low average wage often renders the market garden laborer's annual income from farm work less than minimum subsistence.

4. Massachusetts has always offered many opportunities for alternative employment, but at present the market garden laborer in Middlesex County, being tied to the land, is relatively immobile and is not readily able to transfer to other employment.

If the farm worker's lot is that of poverty and insecurity, as we must conclude from the above summary, what can be done to better it? It is true that his welfare is tied

up with the success or failure of the agricultural industry as a whole, but will he be content to wait for agriculture to improve? A growing unrest is becoming apparent among farm workers in other sections of the country. Sporadic strikes have occurred during the past two years, and in the spring of 1936, a conference of farm labor organizations met in Washington to bring to the attention of the administration their wretched lot.

Massachusetts market garden labor constitutes but one small unit among the mass of such workers, and their status is far superior to that of many of the groups in other parts of the country. Nevertheless, there is an awakening consciousness that labor is not a commodity to be bought and sold, but is the life-blood of the nation.

Measures for improving labor's status, however, to be successful must be based upon such information regarding factors affecting wages as disclosed in the present study. The bargaining power of the Massachusetts market garden laborer, as of most agricultural labor is very weak, and it is through this force that the problem should be attacked.

Organization is difficult among such isolated workers. Moreover, they do not constitute a distinct class, as shown in the preceding chapters, but migrate from industry to industry.

Legislative protection is a means of increasing labor's bargaining power and has yet to be tried in the field of

agricultural labor. Alternative employment provided according to careful plan might be undertaken by governmental agencies during the farm worker's slack months.

Such attempts to improve the status of farm laborers, the Massachusetts market garden workers among them, would no doubt meet with opposition, but in the end might result in a sound political and social stability.

Appendix A

Year	1990	1991	1992	1993
Jan	10	12	15	18
Feb	11	13	16	19
Mar	12	14	17	20
Apr	13	15	18	21
May	14	16	19	22
Jun	15	17	20	23
Jul	16	18	21	24
Aug	17	19	22	25
Sep	18	20	23	26
Oct	19	21	24	27
Nov	20	22	25	28
Dec	21	23	26	29

Year	1990	1991	1992	1993
Jan	10	12	15	18
Feb	11	13	16	19
Mar	12	14	17	20
Apr	13	15	18	21
May	14	16	19	22
Jun	15	17	20	23
Jul	16	18	21	24
Aug	17	19	22	25
Sep	18	20	23	26
Oct	19	21	24	27
Nov	20	22	25	28
Dec	21	23	26	29

Table 1

Average Number of Workers per Farm Employed on
All Farms Reporting

Month	Average Number of Workers per Farm (All Industries)			
	1933	1934	1935	Ave.
January	7.9	8.4	9.6	8.6
February	7.9	8.5	9.0	8.5
March	8.2	8.7	9.5	8.8
April	13.6	14.5	15.4	14.5
May	16.5	18.4	18.4	17.8
June	16.9	18.9	20.0	18.6
July	16.9	20.2	19.7	18.9
August	17.1	17.7	18.6	17.8
September	20.9	25.3	22.0	22.7
October	23.4	20.5	19.1	21.0
November	14.9	15.3	12.3	14.2
December	10.9	10.9	9.7	10.5
Average	14.6	15.6	15.3	15.2

Table 11

Average Number Employed per Farm, Cranberry
Industry

Month	Average Number of Workers per Farm (Cranberry Industry)			
	1933	1934	1935	Av.
January	5.4	9.5	13.3	9.4
February	5.7	11.2	13.8	10.2
March	7.6	12.0	10.8	10.1
April	15.9	18.8	35.2	23.3
May	26.9	30.0	40.6	32.5
June	27.3	35.4	63.4	42.0
July	31.6	35.6	59.4	42.2
August	22.4	24.7	42.6	29.9
September	74.6	129.0	67.2	90.3
October	143.5	122.8	80.0	115.4
November	47.4	75.2	54.0	58.9
December	31.4	23.8	33.7	29.6
Average	36.6	44.0	42.8	41.2

Table 111

Average Number Employed per Dairy Farm

Month	Average Number Workers Employed (Dairy Industry)			
	1933	1934	1935	Ave.
January	10.2	10.5	12.7	11.1
February	10.5	10.3	11.6	10.8
March	10.6	9.5	12.4	10.8
April	11.6	11.8	13.6	12.3
May	11.6	14.4	15.2	13.7
June	12.6	15.5	16.0	14.7
July	14.2	17.1	16.8	16.0
August	15.4	19.0	19.7	18.0
September	16.4	15.3	19.5	17.1
October	13.7	14.2	15.0	14.3
November	11.4	12.8	13.7	12.6
December	10.8	12.5	13.2	12.2
Average	12.4	13.6	14.9	13.6

Table iv

Average Number Employed per General and Market
Garden Farm

Month	Average Number Employed per Farm (General and Market Garden)			
	1933	1934	1935	Ave.
January	9.9	8.5	8.6	9.0
February	9.5	9.1	7.9	8.8
March	9.7	10.0	9.8	9.8
April	12.4	12.5	12.1	12.3
May	15.2	16.4	15.1	15.6
June	18.5	20.7	20.9	20.0
July	20.8	30.3	25.6	25.6
August	26.1	22.2	20.5	22.9
September	17.5	17.8	19.6	18.3
October	17.6	14.7	15.0	15.8
November	13.0	11.9	11.6	12.2
December	9.5	10.0	10.0	9.8
Average	15.0	15.3	14.7	15.0

Table v

Average Number Employed per Fruit Farm

Month	Average Number Employed per Farm (Fruit Industry)			
	1933	1934	1935	Ave.
January	2.8	2.5	3.0	2.8
February	2.7	2.7	3.4	2.9
March	2.7	3.2	3.1	3.0
April	4.0	3.4	4.0	3.8
May	4.6	3.8	4.0	4.1
June	5.0	5.7	4.5	5.1
July	7.3	5.8	4.5	5.9
August	8.2	7.4	9.8	8.5
September	20.1	52.4	34.1	35.5
October	17.1	8.4	17.3	14.3
November	6.5	6.5	4.2	5.7
December	5.0	5.6	3.6	4.7
Average	7.2	8.9	8.0	8.0

Table vi

Average Number Employed per Nursery

Month	Average Number Employed per Nursery (Nursery Industry)			
	1933	1934	1935	Ave.
J				
January	7.3	7.9	7.9	7.7
February	7.3	7.7	7.8	7.6
March	7.4	8.4	8.2	8.0
April	18.6	20.6	19.5	19.6
May	22.1	25.1	23.6	23.6
June	19.6	21.1	20.2	20.3
July	15.5	16.9	16.4	16.3
August	13.6	14.6	15.1	14.4
September	14.0	14.7	15.5	14.7
October	14.8	14.8	14.6	14.7
November	13.2	12.7	13.1	13.0
December	9.2	9.6	10.6	9.8
Average	13.55	14.5	14.4	14.1

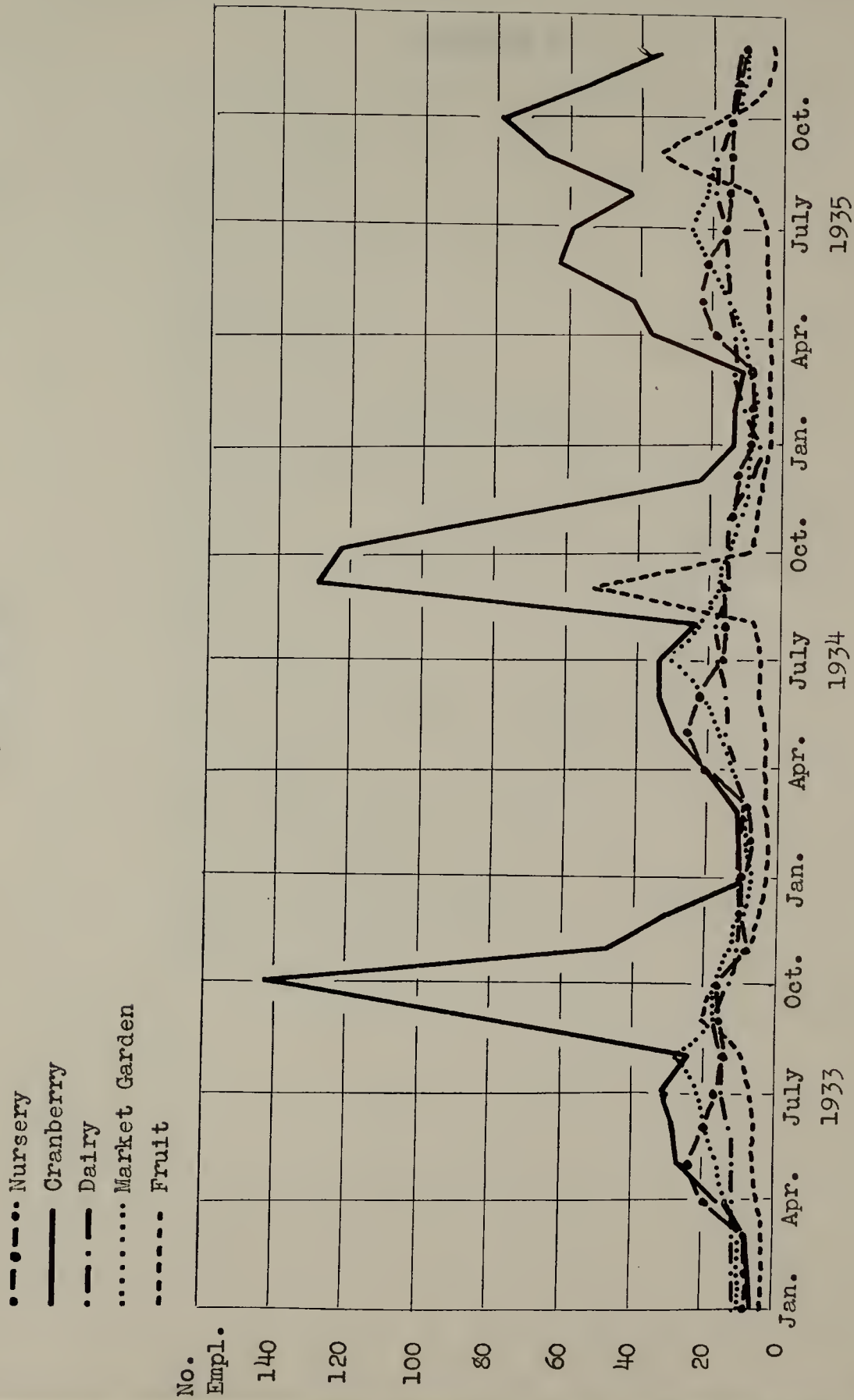
Table vii

Fluctuations in Average Number Employed per Farm per Month,
Maximum and Minimum Employments 1933-35

Industry:	Ave. No. : Emp. : per Farm : per Month	Min. Ave. : Emp. per : Farm	Fluctu- : ation : from : Average	Max. Av. : Emp. per : Farm	Fluctu- : ation : from : Average
			per cent		per cent
Cranberry	41.2	5.4	-86.8	143.5	+249.2
Dairy	13.6	9.5	-30.1	19.7	+44.8
Gen. & Mar- ket Garden	15.0	7.9	-47.3	26.1	+74.0
Fruit	8.0	2.5	-68.7	52.4	+55.5
Nurseries	14.1	7.3	-48.2	25.1	+78.0
All Farms	15.2	7.9	-48.0	25.3	+66.4

Chart 2a

Average Number Employed per Month per Farm Reporting
By Industries



Appendix B

Massachusetts Industries for which Employment and
Wages Data Are Gathered by the Massachusetts De-
partment of Labor and Industries.

(Representative Industries)

Beverages and Liquors
Boot and Shoe Cut Stock
and Findings
Boots and Shoes
Boxes, paper
Bread and bakery products
Car Repair Shops
Chemicals & Allied products
Clothing, men's
Clothing, women's
Confectionery
Cotton goods
Cutlery & Edged tools
Dyeing and finishing textiles
Electrical machinery & supplies
Foundry products
Machine shop products
Hosiery
Knit goods
Iron, steel & their products
Jewelry
Leather
Small work tools
Metal products
Paper & wood pulp
Printing, book & job
Printing & publishing, newspaper
Publishing
Rubber footwear
Rubber goods, tires & tools
Silk & rayon goods
Slaughtering & meat-packing
Stationery goods
Stoves, furnaces, boilers
Textile machinery & parts
Woolen and worsted
All other industries

Bibliography

Books

- Bidwell, Percy Wells. Rural Economy in New England at Beginning of Nineteenth Century. Connecticut Academy of Arts and Sciences. New Haven. 1916.
- Coombs, Whitney. Wages of Unskilled Labor in Manufacturing Industries in the United States, 1890-1934. Columbia University Press. 1936.
- Douglas, Paul H. The Theory of Wages. Macmillan Co. N.Y. 1934.
- Faulkner, H. U. American Economic History. Harper & Bros. 1931.
- French, Geo. New England. Boston Chamber of Commerce. 1911.
- Howard, Louise E. Labour in Agriculture. An International Survey. Oxford University Press. London. England. 1935.
- King, W. I. Employment, Hours and Earnings in Prosperity and Depression, United States, 1920-1932. National Bureau of Economic Research. 1933.
- Shannon, Fred A. Economic History of the People of the United States. Macmillan Co. New York. 1934.
- Tawney, R. H. The Acquisitive Society. Harcourt, Brace and Company. New York. 1920.
- Webb, Sidney and Beatrice. Industrial Democracy: Edition of 1920, with new Introduction. Longmans Green & Co. Ltd. New York and London. 1926.
- Weeden, W. B. Economic and Social History of New England, 1620-1789. Houghton Mifflin Co. New York. 1890.

Publications of the Department of Agriculture

United States

- Bureau of Statistics. Bulletin No. 4. 1892.
- Crops & Markets. July and October, 1935.
- Farmers' and Farm Laborers' Strikes and Riots in the United States, 1932-1935. A list of References. Compiled in Library of Bureau of Agricultural Economics. July 1935.

Folsom, Josiah C. Farm Laborers in United States Turn to Collective Action. Yearbook of Agriculture. 1935.

Farm Labor in Massachusetts. Bureau of Agricultural Economics. Bulletin 1230. 1931.

Perquisites and Wages of Hired Farm Laborers. Technical Bulletin 313. 1931.

Holmes, George K. Supply of Farm Labor. Bureau of Statistics. Bulletin 94. 1912.

Wages of Farm Labor. Bureau of Statistics. Bulletin 99. 1912.

Yearbook of Agriculture. 1936.

Massachusetts

Massachusetts Agricultural Census. 1895. 1935.

Preliminary Study for Boston Regional Produce Market. 1935. (unpublished).

United States Department of Labor

Bureau of Labor Statistics. Bulletins 128, 129, 131, 134, 135, 137, and 964 (mimeo.).

Stewart, Estelle M., and Bowen, C. J. History of Wages in the United States from Colonial Times to 1923. United States Bureau of Labor Statistics. Bulletin No. 499. 1929.

Massachusetts Department of Labor

History of Wages and Prices, 1752-1883. Massachusetts Bureau of Statistics of Labor.

Monthly Statistics of Employment and Payrolls, 1932-1935.

Sixteenth Annual Report of the Massachusetts Bureau of Statistics of Labor.

Department of Commerce Publications

Census, United States. 1880, 1890, 1900, 1910, 1920, 1930.

Census Monographs

Brissenden, Paul F. Census Monograph X. Earnings of
Factory Workers, 1899-1937. 1938.

Truesdell, Leon E. Census Monograph VI. Farm Population
of the United States. 1936.

Industrial Structure of New England. 1930.

Miscellaneous

Massachusetts Unemployment Census. 1930

Douglas, P. H., and Lamberson, F. The Movement of Real Wages,
1800-1918. American Economic Review. Vol. XI. (Sept.
1921).

Hasse, A. R. Index of Economic Material in documents of United
States - Massachusetts, 1789-1904. Carnegie Institution.
1908.

Massachusetts Industrial Review. Vol. I. No. 2. July 1930.

New York Times. March 16, 1936. Farmers Unions March on
Washington.

Rubinow, I. M. The Recent Trend of Real Wages. American
Economic Review. Vol. IV. (Dec. 1914).

Approved by:

He Cance

Harold W. Cary

Albert W. Purvis

Graduate Committee

Date May 29, 1936

